

Gas fired floor-standing condensing boiler

**C 330 ECO -
C 630 ECO**



**Installation, User
and Service
Manual**

EG declaration of conformity

The device complies with the standard type described in the EG declaration of conformity. It was manufactured and commissioned in accordance with European directives.

The original of the declaration of compliance is available from the manufacturer.

Contents

1	Introduction	6
	1.1 Symbols used	6
	1.2 Abbreviations	6
	1.3 General	7
	1.3.1 Manufacturer's liability	7
	1.3.2 Installer's liability	7
	1.3.3 User's liability	7
2	Safety instructions and recommendations	9
	2.1 Safety instructions	9
	2.2 Recommendations	9
3	Technical description	11
	3.1 General description	11
	3.2 Homologations	11
	3.2.1 Certifications	11
	3.2.2 Equipment categories	12
	3.2.3 Data plate	12
	3.2.4 Factory test	12
	3.3 Main parts	13
	3.3.1 Boiler type C 330 ECO	13
	3.3.2 Boiler type C 630 ECO	14
	3.3.3 System pump	14
	3.3.4 Regulation of the water temperature	15
	3.3.5 Protection against a shortage of water	15
	3.3.6 Maximum temperature protection	15
	3.3.7 Air differential pressure switch	15
	3.4 Technical specifications	16
	3.4.1 Boiler type C 330 ECO	16
	3.4.2 Boiler type C 630 ECO	17
4	Installation	19
	4.1 Regulations governing installation	19
	4.2 Package list	19
	4.2.1 Standard delivery	19
	4.2.2 Accessories	19
	4.3 Installation options	20
	4.3.1 Transport	20

4.3.2	Location of the boiler	21
4.3.3	Main dimensions	27
4.4	Hydraulic connections	29
4.4.1	Flushing the system	29
4.4.2	Connection of the heating circuit	29
4.4.3	Connecting the condensate discharge pipe	30
4.5	Gas connection	30
4.6	Connections for the air and exhaust pipes	31
4.6.1	Classification	32
4.6.2	Outlets	32
4.6.3	Lengths of the air/flue gas pipes	32
4.6.4	Additional Directives	35
4.6.5	Connection of the combustion gas exhaust pipe	36
4.6.6	Connection of the air intake pipe	36
4.7	Electrical connections	37
4.7.1	Control unit	37
4.7.2	Recommendations	38
4.7.3	Standard control PCB	38
4.7.4	Connecting the on/off control	40
4.7.5	Connecting modulating controller	40
4.7.6	Shutdown input	40
4.7.7	Release input	40
4.7.8	System pump	41
4.7.9	PC/Laptop connection	41
4.7.10	Connection possibilities for the PCB (SCU-D4)	41
4.8	Optional electrical connections	42
4.8.1	Connection possibilities for the PCB (SCU-S05)	42
4.9	Electrical diagram	47
4.10	Filling the system	47
4.10.1	Water treatment	48
4.10.2	Filling the siphon	49
4.10.3	Filling the system	49
5	Commissioning	50
5.1	Control panel	50
5.2	Check points before commissioning	50
5.2.1	Preparing the boiler for commissioning	50
5.2.2	Gas circuit	51
5.2.3	Hydraulic circuit	51
5.2.4	Connections for the air and exhaust pipes	51
5.2.5	Electrical connections	51
5.3	Commissioning the boiler	51
5.3.1	DIEMATIC iSystem control panel	51

	5.3.2	IniControl control panel	52
5.4		Gas settings	53
	5.4.1	Setting the air/gas ratio (Full load) (Diematic iSystem)	53
	5.4.2	Setting the air/gas ratio (Part load) (Diematic iSystem)	54
	5.4.3	Setting the air/gas ratio (Full load) (IniControl)	55
	5.4.4	Setting the air/gas ratio (Part load) (IniControl)	56
5.5		Checks and adjustments after commissioning	57
	5.5.1	Finalizing work	57
5.6		Reading out measured values	58
5.7		Changing the settings	58
6		Switching off the boiler	59
	6.1	Installation shutdown	59
	6.1.1	Diematic iSystem	59
	6.1.2	IniControl	59
	6.2	Frost protection	59
	6.2.1	Diematic iSystem	60
	6.2.2	IniControl	60
7		Checking and maintenance	61
	7.1	General	61
	7.2	Standard checks	61
	7.2.1	Checking the hydraulic pressure	62
	7.2.2	Checking the ionization current	62
	7.2.3	Check the water quality	62
	7.2.4	Checking the air supply connections and flue gas discharge connections	63
	7.2.5	Checking the gas filter for pollution	63
	7.2.6	Checking combustion	63
	7.2.7	Check the air supply hose	64
	7.2.8	Check the dirt trap	64
	7.2.9	Check the air box	65
	7.2.10	Check the air pressure differential switch PS	65
	7.2.11	Check the gas leakage control VPS	67
	7.2.12	Check the minimum gas pressure switch Gps	69
	7.3	Specific maintenance operations	69
	7.3.1	Clean the fan and the venturi	70
	7.3.2	Clean and inspect the non-return valve	71
	7.3.3	Replacing the ionization/ignition electrode	71
	7.3.4	Cleaning the gas filter	72
	7.3.5	Cleaning the burner	73

	7.3.6	Clean the burner area	73
	7.3.7	Checking the heat exchanger	74
	7.3.8	Cleaning the condensate collector	75
	7.3.9	Cleaning the siphon	75
	7.3.10	Assembling the boiler	76
	7.3.11	Put the boiler back into operation	76
8	Troubleshooting		77
	8.1	Troubleshooting	77
9	Spare parts		78
	9.1	General	78
	9.2	Spare parts	78
	9.2.1	Casing	79
	9.2.2	Heat exchanger and burner	80
	9.2.3	Fan	81
	9.2.4	Control panel	82
	9.2.5	Spare parts C630 ECO	83
	9.2.6	Spare parts list	84

1 Introduction

1.1 Symbols used

In these instructions, various danger levels are employed to draw the user's attention to particular information. In so doing, we wish to safeguard the user's safety, obviate hazards and guarantee correct operation of the appliance.



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.



Signals important information.



Signals a referral to other instructions or other pages in the instructions.

1.2 Abbreviations

- ▶ **Interscenario switch:** Home automation switch that can be used to centralise and control several scenarios
- ▶ **Hi:** Lower heating value LHV (Nett)
- ▶ **Hs:** Higher heating value HHV (Gross)
- ▶ **PPS:** Polypropylene hardly inflammable
- ▶ **PCU:** Primary Control Unit - PCB for managing burner operation
- ▶ **PSU:** Parameter Storage Unit - Parameter storage for PCBs PCU and SU
- ▶ **SCU:** Secondary Control Unit - Extended control PCB
- ▶ **SU:** Safety Unit - Safety PCB
- ▶ **3WV:** 3-way valve

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.

1.3.3. User's liability

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

- ▶ Read and follow the instructions given in the manuals provided with the appliance.
- ▶ Call on qualified professionals to carry out installation and initial start up.
- ▶ Get your installer to explain your installation to you.
- ▶ To carry out inspections and maintenance required by a qualified professional.
- ▶ Keep the instruction manuals in good condition close to the appliance.

This appliance is not intended to be used by persons (including children) whose physical, sensory or mental capacity is impaired or persons with no experience or knowledge, unless they have the benefit, through the intermediary of a person responsible for their safety, of supervision or prior instructions regarding use of the appliance. Care should be taken to ensure that children do not play with the appliance.

2 Safety instructions and recommendations

2.1 Safety instructions



DANGER

If you smell gas:

1. Do not use a naked flame, do not smoke, do not operate electrical contacts or switches (doorbell, light, motor, lift, etc..).
2. Shut off the gas supply.
3. Open the windows.
4. Trace possible leaks and seal them immediately.
5. If the gas leak is before the gas meter, contact the gas supplier.



DANGER

If you smell flue gases:

1. Switch the appliance off.
2. Open the windows.
3. Trace possible leaks and seal them immediately.

2.2 Recommendations



WARNING

- ▶ Installation and maintenance of the boiler must be carried out by a qualified professional in compliance with prevailing local and national regulations.
- ▶ When working on the boiler, always disconnect the boiler from the mains and close the main gas inlet valve.
- ▶ After maintenance or repair work, check all installations to ensure that there are no leaks.



CAUTION

The boiler must be installed in a frost-free environment.



Store this document in the document wallet on the inside of the boiler casing (Underneath the instrument panel).

Casing components

Only remove the casing for maintenance and repair operations. Put the casing back in place after maintenance and repair operations.

Instructions stickers

The instructions and warnings affixed to the appliance must never be removed or covered and must remain legible during the entire lifespan of the appliance. Immediately replace damaged or illegible instructions and warning stickers.

Modifications

Modifications may only be made to the boiler after the written permission of **De Dietrich Thermique** to do so.

3 Technical description

3.1 General description

Gas fired floor-standing condensing boiler

- ▶ High efficiency heating.
- ▶ Low pollutant emissions.
- ▶ Heat exchanger made of cast aluminium sections.
- ▶ Transport wheels as standard.
- ▶ Left or right-hand version of the water and flue gas side connections possible.
- ▶ Separable for assembly in boiler room.
- ▶ **DIEMATIC iSystem** or **IniControl** control panel

Boiler type:

- ▶ Type C 330 - 280 Eco: Output 282 kW
- ▶ Type C 330 - 350 Eco: Output 353 kW
- ▶ Type C 330 - 430 Eco: Output 427 kW
- ▶ Type C 330 - 500 Eco: Output 499 kW
- ▶ Type C 330 - 570 Eco: Output 573 kW
- ▶ Type C 330 - 650 Eco: Output 647 kW

Boiler type:

The C 630 condensing boiler corresponds to a cascade composed of 2 individual boilers (C 330).

- ▶ Type C 630 - 560 Eco: Output 564 kW
- ▶ Type C 630 - 700 Eco: Output 706 kW
- ▶ Type C 630 - 860 Eco: Output 854 kW
- ▶ Type C 630 - 1000 Eco: Output 998 kW
- ▶ Type C 630 - 1140 Eco: Output 1146 kW
- ▶ Type C 630 - 1300 Eco: Output 1294 kW

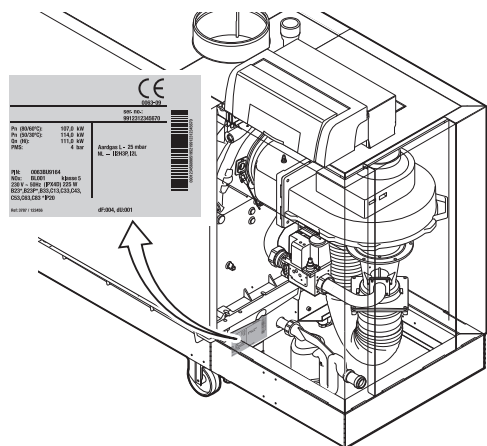
3.2 Homologations

3.2.1. Certifications

CE identification no	PIN 0063CL3613
NOx classification	5 (EN 297 pr A3, EN 656)
Type of connection	Chimney: B ₂₃ , B _{23p} Flue gas outlet: C ₃₃ , C ₅₃ , C ₆₃ , C ₈₃ , C ₉₃

3.2.2. Equipment categories

3.2.3. Data plate



T003475-F

The identification plate is located behind the boiler casing on the frame, near the syphon connection. It contains the boiler serial number and important boiler specifications, such as the model and the gas category.

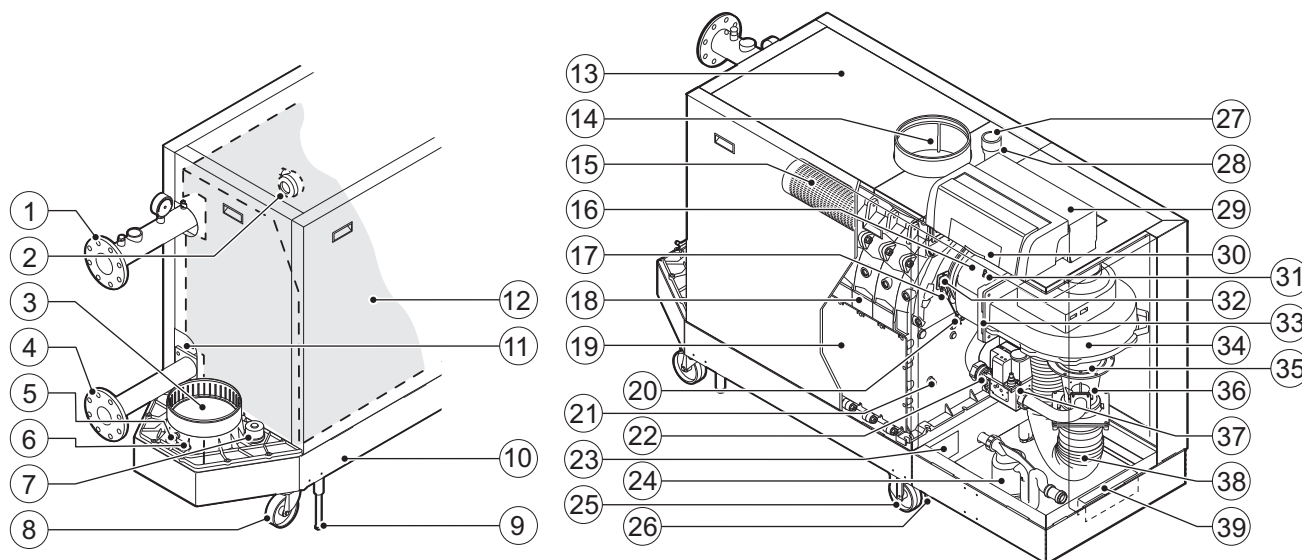
3.2.4. Factory test

Before leaving the factory, each boiler is set for optimum performance and tested to check the following items:

- ▶ Electrical safety
- ▶ Adjustment (CO₂)
- ▶ Water tightness
- ▶ Gas tightness
- ▶ Parameter settings


3.3 Main parts

3.3.1. Boiler type C 330 ECO

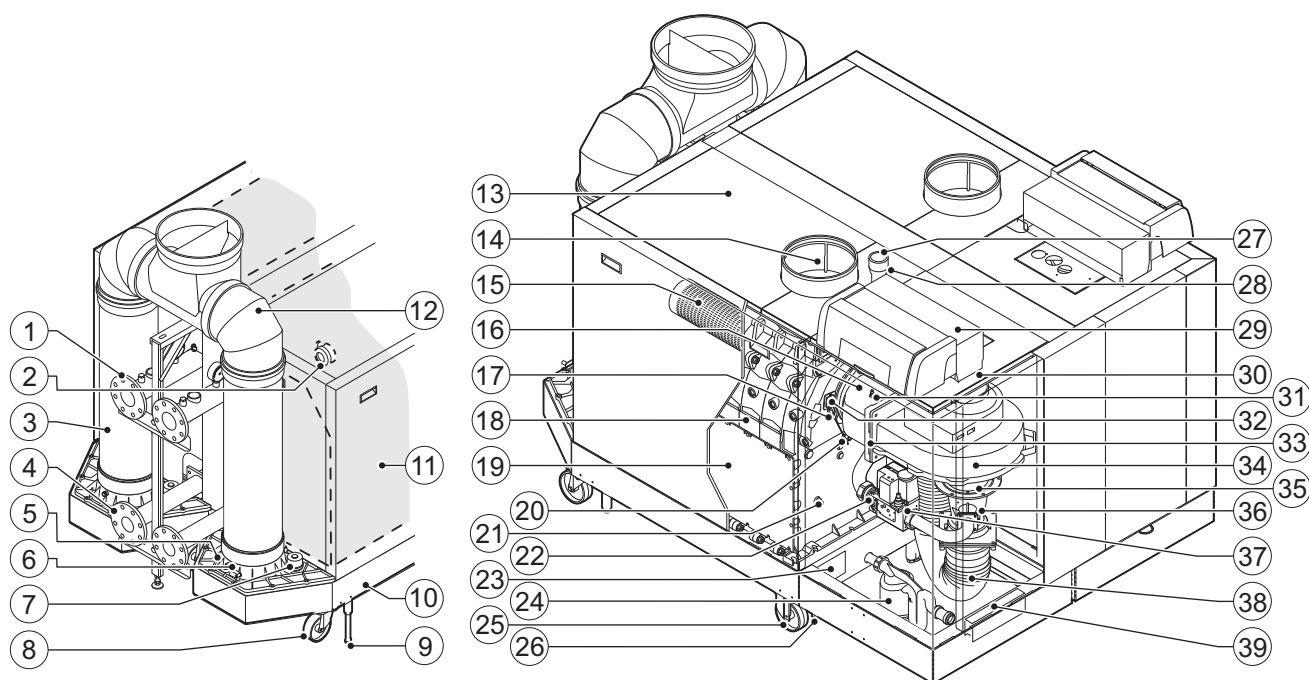


T004014-D

1	Flow connection ⁽¹⁾	21	Return sensor
2	Air differential pressure switch	22	Gas filter
3	Flue gas discharge pipe	23	Data plate
4	Return connection	24	Siphon
5	Outlet for measuring combustion gases	25	Transport wheels
6	Flue gas thermostat (Accessory)	26	Jacking bolt
7	Condensate collector sealant cap	27	Gas connection
8	Pivoting castor	28	Gas pressure measurement point
9	Jacking bolt	29	Control panel
10	Base frame	30	Location for optional features or a control unit
11	Second return connection (Accessory)	31	Pressure measurement point
12	Heat exchanger insulation	32	Sight glass
13	Boiler casing	33	Non-return valve
14	Combustive air inlet	34	Fan
15	Burner	35	Extension piece
16	adapter	36	Venturi
17	Ignition/ionization electrode	37	Gas block
18	Heat exchanger	38	Air inlet hose
19	Inspection hatch	39	Document holder
20	Heat exchanger sensor		

(1)  For more details about the devices in the flow pipe, please see "Connection of the heating circuit", page 29

3.3.2. Boiler type C 630 ECO




T004015-E

1	Flow connection ⁽¹⁾	21	Return sensor
2	Air differential pressure switch	22	Gas filter
3	Flue gas discharge pipe	23	Data plate
4	Return connection	24	Siphon
5	Outlet for measuring combustion gases	25	Transport wheels
6	Flue gas thermostat (Accessory)	26	Jacking bolt
7	Condensate collector sealant cap	27	Gas connection
8	Pivoting castor	28	Gas pressure measurement point
9	Jacking bolt	29	Control panel
10	Base frame	30	Location for optional features or a control unit
11	Heat exchanger insulation	31	Pressure measurement point
12	Flue gas collector	32	Sight glass
13	Boiler casing	33	Non-return valve
14	Combustive air inlet	34	Fan
15	Burner	35	Extension piece
16	adapter	36	Venturi
17	Ignition/ionization electrode	37	Gas block
18	Heat exchanger	38	Air inlet hose
19	Inspection hatch	39	Document holder
20	Heat exchanger sensor		

(1) For more details about the devices in the flow pipe, please see "Connection of the heating circuit", page 29

3.3.3. System pump

The boiler does not have a built-in pump. A system pump can be installed on the connector of the standard control PCB. This can be an on/off pump or a modulating pump (with 0 - 10 V control).


 For more information on controlling a modulating pump, See paragraph: "Electrical connections", page 37.

If noises caused by flow in the system can be heard:

- ▶ First of all, vent the heating system.
- ▶ Reduce the maximum pump speed (Parameter **MAX.PUMP SPEED** on DIEMATIC iSystem - Parameter **P44** on IniControl).

If circulation in the radiators is too weak or the radiators do not fully heat up:

- ▶ Increase the minimum pump speed (Parameter **MIN.PUMP SPEED** on DIEMATIC iSystem - Parameter **P43** on IniControl).

 See the manual for the control panel.

3.3.4. Regulation of the water temperature

The boiler is equipped with electronic temperature control based on flow, return, and boiler block temperature sensors. The flow temperature can be set between 20°C and 90°C. The boiler reduces its power when the set outlet-temperature is attained. The cutout temperature is the set heating outlet-temperature + 5 °C.

3.3.5. Protection against a shortage of water

The boiler is fitted with a safety device to prevent the shortage of water based on temperature measurements (Temperature difference between flow and return). If $\Delta T = 25$ K is reached (factory setting), the boiler reduces its output by modulating to remain in operation as long as possible. If $\Delta T \geq 25$ K the boiler goes into part load. If $\Delta T > 25 + 5$ K the boiler goes into a normal control stop (blocking).

3.3.6. Maximum temperature protection

The maximum protection switches the boiler off if the water temperature is too high (110°C) and locks it on the control box. Once the fault has been rectified, the boiler can be reset by pressing the **RESET** button for 2 seconds.

3.3.7. Air differential pressure switch

Before a start and when the boiler is in operation, the air pressure differential switch **PS** measures the difference in pressure between the measuring points at the rear of the heat exchanger **p⁺** and the air box **p⁻**. If the pressure difference is greater than 6 mbar, then the boiler will lock out. Once the fault has been rectified, the boiler can be reset by pressing the **RESET** button for 2 seconds.

3.4 Technical specifications

3.4.1. Boiler type C 330 ECO

Boiler type	C 330 ECO	Unit	280	350	430	500	570	650
General								
Number of sections	-	-	5	6	7	8	9	10
EC identification no.	PIN		0063CL3613					
Flow rate setting	Adjustable		Modulating, Start/Stop, 0 - 10 V					
Nominal output (Pn) (80/60 °C)	minimum maximum ⁽¹⁾	kW	51 261	65 327	79 395	92 461	106 530	119 601
Nominal output (Pn) (50/30 °C)	maximum ⁽¹⁾	kW	279	350	425	497	574	651
Nominal input (Qn) (Hs)	minimum maximum ⁽¹⁾	kW	60 295	75 369	96 445	105 520	121 598	135 677
Nominal input (Qn) (Hi)	minimum maximum ⁽¹⁾	kW	54 266	68 333	82 402	95 469	109 539	122 610
Full load water efficiency (Hi) (80/60 °C)		%	98,0	98,1	98,2	98,3	98,4	98,5
Full load water efficiency (Hi) (50/30 °C)		%	104,8	105,2	105,6	106,0	106,4	106,8
Low load water efficiency (Hi) (Return temperature 60°C)		%	94,7	95,3	95,8	96,3	96,8	97,3
Data on the gases and combustion gases								
Gas consumption G20 (Gas H)	minimum maximum	m ³ /h	5,7 28,1	7,2 35,2	8,7 42,5	10,1 49,6	11,5 57,0	12,9 64,6
Gas inlet pressure G20 (Gas H)	minimum maximum	mbar	17 30	17 30	17 100	17 100	17 100	17 50
Flue gas losses		%	2,3	2,3	2,3	2,3	2,3	2,3
Mass flue gas flow rate	minimum maximum	kg/h	91 448	114 560	138 676	160 789	183 907	205 1026
Flue gas temperature	minimum maximum	°C	30 80					
Maximum residual fan duty for flue gas		Pa	130	120	130	150	150	150
Characteristics of the heating circuit								
Water content	-	l	49	60	71	82	93	104
Water operating pressure	minimum	bar	0,8					
Water operating pressure (PMS)	maximum	bar	7					
Water temperature	maximum	°C	110					
Operating temperature	minimum	°C	20					
	maximum		90					
	Factory setting		80					
Water resistance (ΔT = 20K)		mbar	113	110	120	110	125	130
		kPa	11,3	11	12	11	12,5	13,0
Water resistance (ΔT = 11K)		mbar	374	364	397	364	413	435
		kPa	37,4	36,4	39,7	36,4	41,3	43,5
Electrical characteristics								
Power supply voltage		VAC/Hz	230/50					
Fuse (230 VAC)	F2 Circuit-breaker	AT	10					
	F1 control PCB	AT	2					
(1) Factory setting								
(2) For a room sealed operation								

Boiler type	C 330 ECO	Unit	280	350	430	500	570	650
Power consumption - Full load	maximum	W	279	334	426	543	763	723
Power consumption - Part load	maximum	W	46	46	58	61	62	55
Power consumption - Standby	maximum	W	6	6	6	6	6	7
Electrical protection index		IP	X1B ⁽²⁾					
Other characteristics								
Weight (empty)	Total	kg	364	398	433	495	531	568
Acoustic level at 1 metre ⁽²⁾ .		dB(A)	61	61	65	65	65	65
Ambient temperature	maximum	°C	40					
(1) Factory setting								
(2) For a room sealed operation								

3.4.2. Boiler type C 630 ECO

Boiler type	C 630 ECO	Unit	560	700	860	1000	1140	1300
General								
Number of sections	-	-	2x5	2x6	2x7	2x8	2x9	2x10
EC indentification no.	PIN		0063CL3613					
Flow rate setting	Adjustable		Modulating, Start/Stop, 0 - 10 V					
Nominal output (Pn) (80/60 °C)	minimum maximum ⁽¹⁾	kW	69 522	87 654	123 790	122 922	148 1060	158 1202
Nominal output (Pn) (50/30 °C)	maximum ⁽¹⁾	kW	558	700	850	994	1148	1303
Nominal input(Qn) (Hs)	minimum maximum ⁽¹⁾	kW	80 590	101 738	142 890	141 1040	170 1196	180 1354
Nominal input (Qn) (Hi)	minimum maximum ⁽¹⁾	kW	72 532	91 666	128 804	127 938	170 1078	162 1220
Full load water efficiency (Hi) (80/60 °C)		%	98,0	98,1	98,2	98,3	98,4	98,5
Full load water efficiency (Hi) (50/30 °C)		%	104,8	105,2	105,6	106,0	106,4	106,8
Low load water efficiency (Hi) (Return temperature 60°C)		%	94,7	95,3	95,8	96,3	96,8	97,3
Data on the gases and combustion gases								
Gas consumption G20 (Gas H)	minimum maximum	m ³ /h	7,6 56,2	9,6 70,4	13,5 85,0	13,4 99,2	16,2 114,0	17,2 129,2
Gas inlet pressure G20 (Gas H)	minimum maximum	mbar	17 30	17 30	17 100	17 100	17 100	17 50
Flue gas losses		%	2,3	2,3	2,3	2,3	2,3	2,3
Mass flue gas flow rate	minimum maximum	kg/h	182 896	228 1120	276 1352	320 1578	366 1814	410 2052
Flue gas temperature	minimum maximum	°C	30 80					
Maximum residual fan duty for flue gas		Pa	130	120	130	130	130	130
Characteristics of the heating circuit								
Water content	-	l	98	120	142	164	186	208
Water operating pressure	minimum	bar	0,8					
Water operating pressure (PMS)	maximum	bar	7					
Water temperature	maximum	°C	110					
Operating temperature	minimum	°C	20					
	maximum		90					
	Factory setting		80					
(1) Factory setting								
(2) For a room sealed operation								

Boiler type	C 630 ECO	Unit	560	700	860	1000	1140	1300
Water resistance ($\Delta T = 20K$)		mbar	113	110	120	110	125	130
		kPa	11,3	11	12	11	12,5	13
Water resistance ($\Delta T = 11K$)		mbar	374	364	397	364	413	435
		kPa	37,4	36,4	39,7	36,4	41,3	43,5
Electrical characteristics								
Power supply voltage		VAC/Hz	230/50					
Fuse (230 VAC)	F2 Circuit-breaker	AT	10					
	F1 control PCB	AT	2					
Power consumption - Full load	maximum	W	558	668	852	1086	1526	1446
Power consumption - Part load	maximum	W	92	92	116	122	124	110
Power consumption - Standby	maximum	W	12	12	12	12	12	14
Electrical protection index		IP	X1B ⁽²⁾					
Other characteristics								
Weight (empty)	Total	kg	707	771	837	957	1025	1095
Acoustic level at 1 metre ⁽²⁾ .		dB(A)	64	64	68	68	68	68
Ambient temperature	maximum	°C	40					
(1) Factory setting								
(2) For a room sealed operation								

4 Installation

4.1 Regulations governing installation



WARNING

Installation of the appliance must be done by a qualified engineer in accordance with prevailing local and national regulations.

4.2 Package list

4.2.1. Standard delivery

- ▶ Boiler delivered assembled (without control panel)
- ▶ Complete siphon
- ▶ Filling and drainage valve
- ▶ Gas filter
- ▶ Boiler installation, use and maintenance manual
- ▶ Water quality instructions

4.2.2. Accessories



Only use the original or recommended accessories.

Description	package
2nd return for boiler	Preassembled in the factory
low water pressure switch	S101784
Gas valve unit sealing control - 5 to 9 sections	100002456
Gas valve unit sealing control - 10 sections	S101724
Min gas pressure switch for gas valve unit - 5 to 9 sections	S100327
Min gas pressure switch for gas valve unit - 10 sections	S101805
Air intake filter	100002454
Pressure regulator	88027177
Flue gas sensor	S103023
Adapter flange from 4 to 8 holes for pump	S101775
Return coupling header 2xC330 - DN80	S101799
Coupling header 2nd return 2xC330 - DN65	S101800
Cleaning knife (length 560 mm)	100002455
Condensates neutralisation station - Boilers from 120 to 350 kW	83877010
Condensates neutralisation system -	83877011

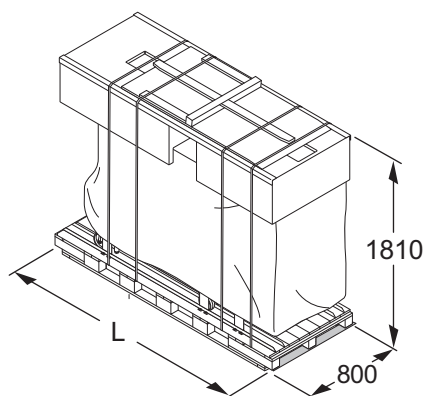
Description	package
Condensates neutralisation system	82197762
Condensates neutralisation system	82197771
10 kg refill of granulates to neutralisation station	94225601
Flue gas system connection adapter from C310 to C330	S102711
Reduction Ø 250 to Ø 200	57718
Flue gas connection kit for 2xC330	S103118
Vertical forced flue in galvanised aluminium - Ø 200/300 mm	51202
Vertical forced flue in galvanised aluminium - Ø 250/350 mm	51203
Flashing for flat roof - Ø 300 mm	46157
Flashing for flat roof - Ø 350 mm	46158

4.3 Installation options

4.3.1. Transport



For **C 630 ECO** boilers: The features and instructions described are for each boiler module.



T003980-B

Boiler type C330 ECO	L (mm)
280	1920
350	
430	
500	2230
570	
650	

The boiler is supplied fully assembled on a pallet. See the diagram and table for the dimensions. The base of the packaging is a pallet 80 cm wide. This means that the crate can be transported with a pallet truck or four-wheel transport boards. Without the packaging, the boiler is 720 mm wide (700 mm without casing) and the boiler will fit through standard doors. The boiler has integrated wheels, so that it can easily be moved around once the packaging has been removed..

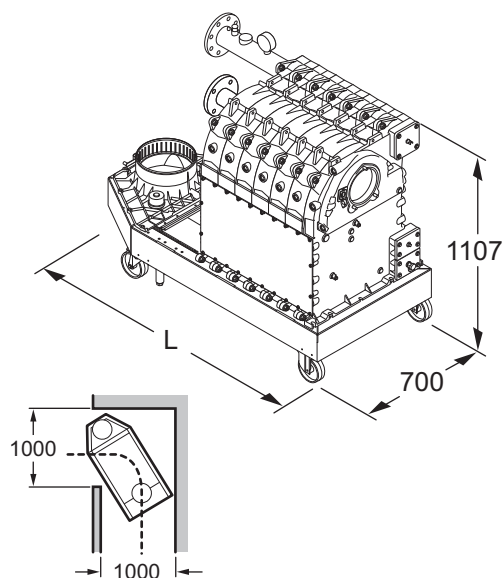
**CAUTION**

The wheels are designed for transport purposes only and not for use when the boiler is in its final position.

If required for internal transport, the boiler can be dismantled into smaller parts for transport. The boiler can be stripped of:

- ▶ Casing components
- ▶ Gas/air components
- ▶ The frame section on the instrument panel side

See the diagram and table for the dimensions of the largest remaining transport part (Frame section with heat exchanger and water connections).



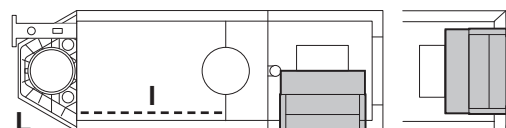
T003676-B

Boiler type C330 ECO	L (mm)
280	1160
350	
430	
500	1469
570	
650	

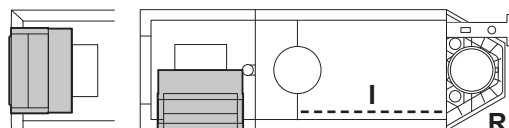
For information on fitting the parts, refer to the assembly instructions delivered with the boiler.

4.3.2. Location of the boiler

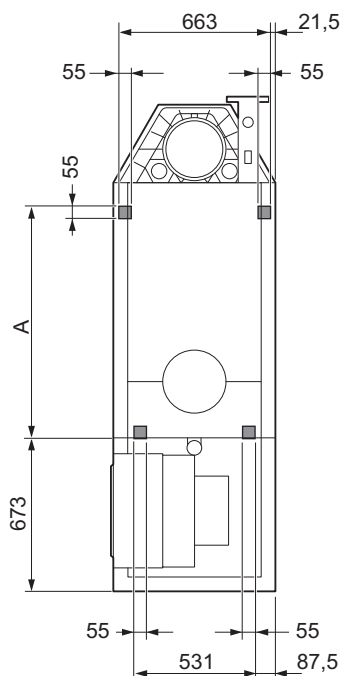
■ Boiler type C 330 ECO



- L** Left version
- R** Right version
- I** Inspection hatch



T003785-C

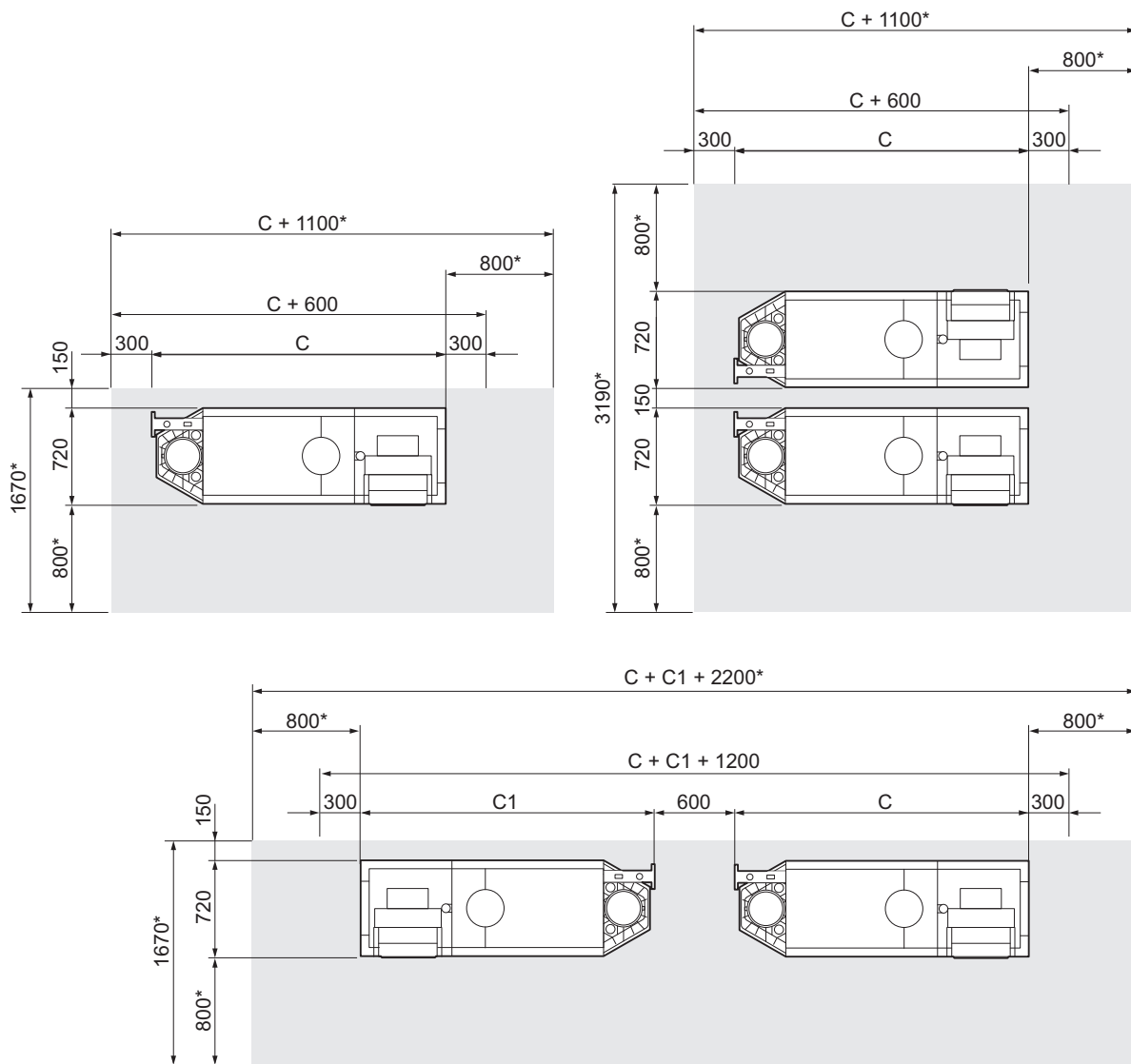


T003474-B

The service side with the inspection hatch on the heat exchanger is considered to be the front of the boiler. The boiler is available in both a 'left-hand' and 'right-hand' version. This means that the hydraulic connections and the flue gas discharge are situated on either the left or the right-hand side of the boiler. The control panel is on the front as standard, but can easily be rotated so that it is on the short side.


To make the boiler level and to raise the wheels off the floor, the adjustment bolts must be used. Turn the adjustment bolts out as soon as the boiler is placed in the correct position. The picture shows the support surface of the boiler (This is the position of the adjustment bolts).

Boiler type C330 ECO	A (mm)
280	723
350	
430	
500	1032
570	
650	



T003499-B

* = Spacing required if this is operating side.

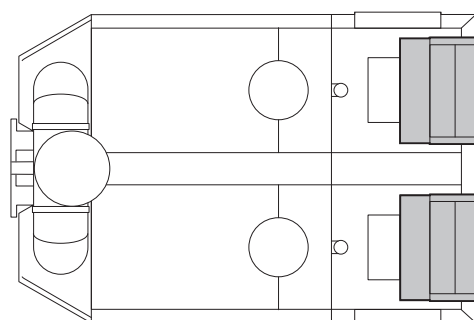
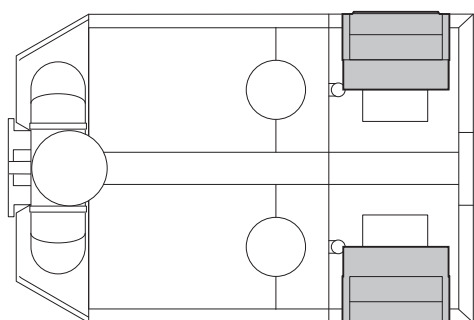
 For the dimensions of C/C1, see paragraph: "Main dimensions", page 27

A technical clearance of at least 80 cm is required at the front (service side) of the boiler. However, we recommend that the clearance is at least 100 cm. We recommend a clearance of at least 40 cm above the boiler (If the air supply filter is used, there must be a clearance of at least 65 cm). A minimum of 30 cm is required on the side of the flue gas discharge, and a minimum of 30 cm is also required on the other side (or 80 cm, if this is operating side).

■ Boiler type C 630 ECO

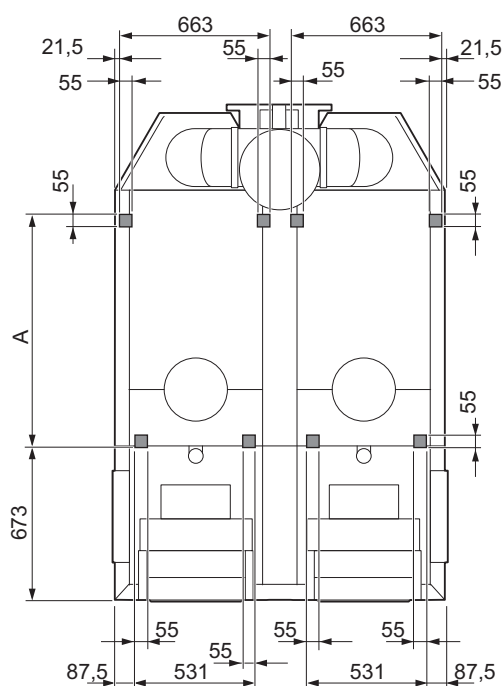
The boiler is not available with a choice between 'left-hand' and 'right-hand' versions. The control panel is on the front as standard, but can easily be rotated so that it is on the short side.

To make the boiler level and to raise the wheels off the floor, the adjustment bolts must be used. Turn the adjustment bolts out as soon as the boiler is placed in the correct position. The picture shows the support surface of the boiler (This is the position of the adjustment bolts).

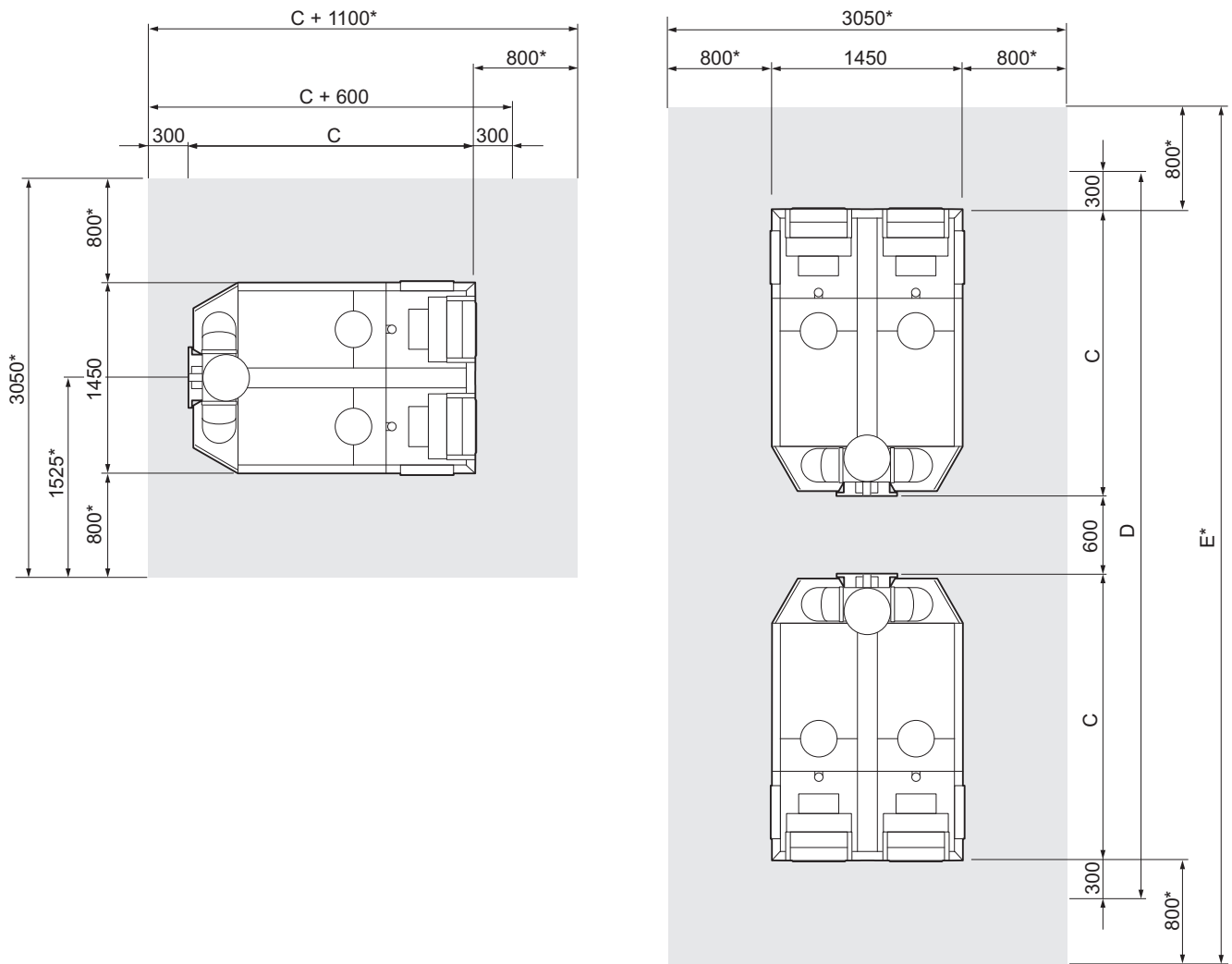


T003784-C

Boiler type C630 ECO	A (mm)
560	723
700	
860	
1000	1032
1140	
1300	




T003767-D



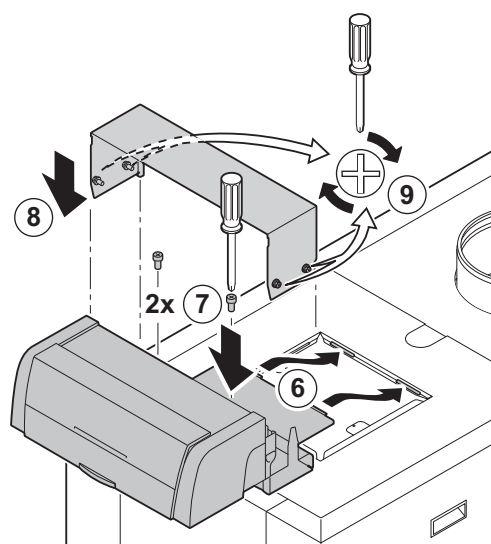
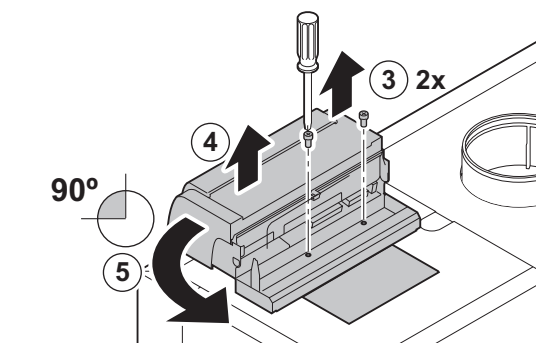
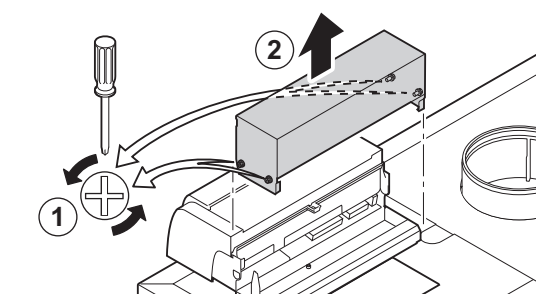
T003768-E

* = Spacing required if this is operating side.

 For the dimensions of C, see paragraph: "Main dimensions", page 27.

A technical clearance of at least 80 cm is required at the front (service side) of the boiler. However, we recommend that the clearance is at least 100 cm. We recommend a clearance of at least 40 cm above the boiler (If the air supply filter is used, there must be a clearance of at least 65 cm). A minimum of 30 cm is required on the side of the flue gas discharge, and a minimum of 30 cm is also required on the other side (or 80 cm, if this is operating side).

■ Rotate instrument panel



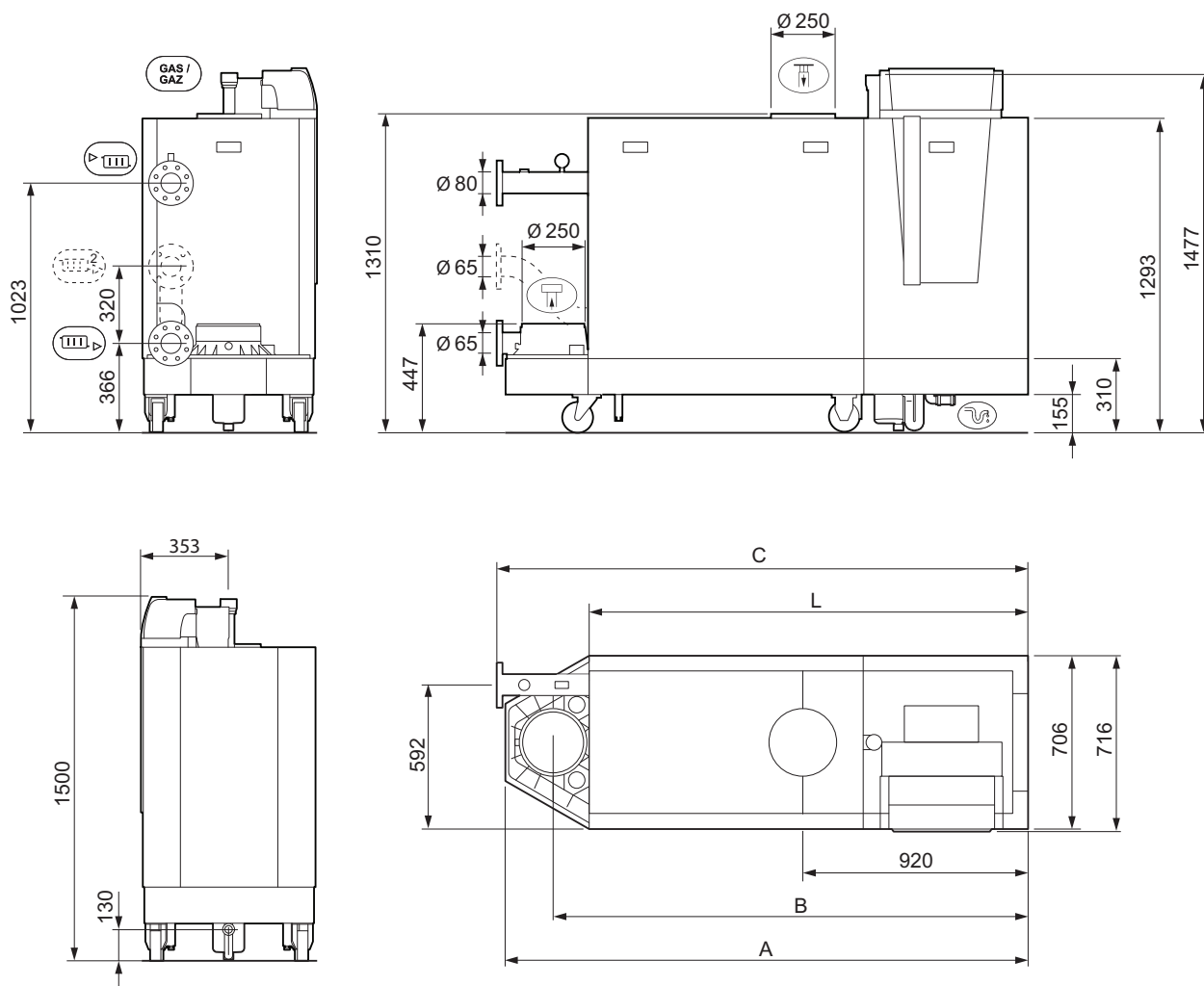
T004028-E

The control panel is on the front as standard, but can easily be rotated so that it is on the short side.

1. Unscrew the 4 lateral holding screws in the control panel.
2. Remove the protective cover.
3. Unscrew the 2 bottom plate socket screws.
4. Lift up the instrument panel with the bottom plate.
5. Turn the instrument panel and the bottom plate into position on the short side.
6. Slide the lips of the bottom plate into the appropriate slots.
7. Tighten the 2 bottom plate socket screws.
8. Refit the protective cover.
9. Screw the 4 lateral holding screws back in.

4.3.3. Main dimensions

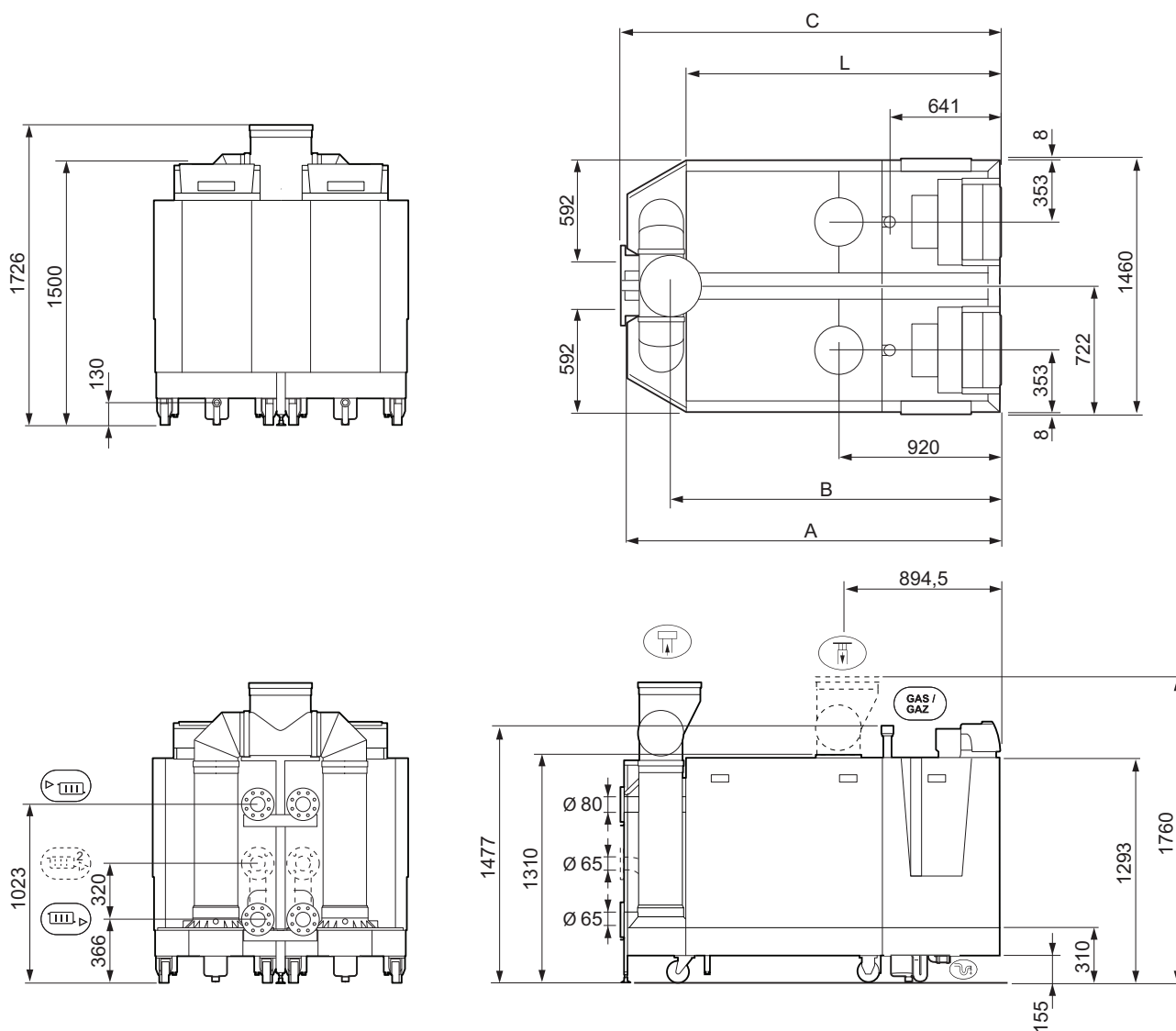
■ Boiler type C 330 ECO










T003472-H

C330 ECO	A (mm)	B (mm)	C (mm)	L (mm)	Symbol	Fittings
280	1833	1635	1862	1490		Heating circuit flow, Flange NW 80 (DIN 2576)
350	1833	1635	1862	1490		Heating circuit return, Flange NW 80 (DIN 2576)
430	1833	1635	1862	1490	Gas / Gaz	Gas connection, G2" (Female thread)
500	2142	1944	2172	1800		
570	2142	1944	2172	1800		Flue gas discharge pipe, Ø 250 mm
650	2142	1944	2172	1800		Air intake, Ø 250 mm
						Second return (optional), Flange NW 65 (DIN 2576))

■ Boiler type C 630 ECO



T003766-G

C630 ECO	A (mm)	B (mm)	C (mm)	L (mm)	Symbol	Fittings
560	1833	1635	1862	1490		Heating circuit flow, Flange NW 80 (DIN 2576)
700	1833	1635	1862	1490		Heating circuit return, Flange NW 80 (DIN 2576)
860	1833	1635	1862	1490		Gas connection, G2" (Female thread)
1000	2142	1944	2172	1800		
1140	2142	1944	2172	1800		Flue gas discharge pipe, Ø 350 mm
1300	2142	1944	2172	1800		Air intake, Ø 250 mm Air supply collector (Option), Ø 350 mm
						Second return (optional), Flange NW 65 (DIN 2576)

4.4 Hydraulic connections

4.4.1. Flushing the system

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

Installing the boiler in new installations (installations less than 6 months old)

- ▶ Clean the installation with a universal cleaner to eliminate debris from the appliance (copper, hemp, flux).
- ▶ Thoroughly flush the installation until the water runs clear and shows no impurities.

Installing the boiler in existing installations

- ▶ Remove sludge from the installation.
- ▶ Flush the installation.
- ▶ Clean the installation with a universal cleaner to eliminate debris from the appliance (copper, hemp, flux).
- ▶ Thoroughly flush the installation until the water runs clear and shows no impurities.

4.4.2. Connection of the heating circuit







For the connection(s) of the boiler **C 630 ECO**: The features and instructions described are for each boiler module.

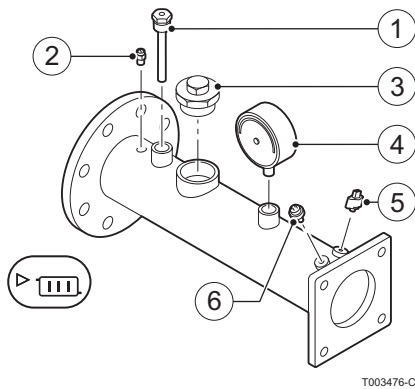


CAUTION

The heating pipe must be mounted in accordance with prevailing provisions.

1. Remove the dust cap on the central heating flow connection .
2. Remove the dust cap on the central heating return connection .
3. Connect the heating water outlet pipe to the connection .
4. Connect the heating water return pipe to the connection .
5. Connect a safety valve to the boiler's flow connection.
6. Connect the pump to the boiler's return connection.

Always connect the boiler in a way that will guarantee the water flow through the unit during operation. When the boiler is used in a system with two return pipes, the return pipe must be used as a lowest temperature return. The second return pipe (accessory) is then used as a higher temperature return. Refer to the instructions supplied with the product. Please contact us for further information.



The flow pipe is fitted with the following components:

- | | |
|---|--|
| 1 | Tube pocket for a temperature sensor for an external control (1/2"). |
| 2 | Vent device (1/8"). |
| 3 | Connection for safety valve (1 1/2"). |
| 4 | Pressure gauge (1/2"). |
| 5 | Flow sensor (M6). |
| 6 | High-limit thermostat (M4). |

4.4.3. Connecting the condensate discharge pipe



For the connection(s) of the boiler **C 630 ECO**: The features and instructions described are for each boiler module.

Discharge the condensed water directly into the drain using a syphon. In view of the acidity level (pH 2 to 5), only use plastic material for the discharge pipe.

1. Install a plastic drain pipe on the syphon (dia. 32 mm or larger, connected to a drain).



CAUTION

Do not make a fixed connection in order to prevent an overpressure in the syphon.



- ▶ The condensate drain must be connected openly to the drain.
- ▶ Set the discharge pipe at a gradient of at least 5 - 10 mm per metre, maximum horizontal length 5 metres.
- ▶ Do not drain condensation water into a roof gutter at any time.
- ▶ Connect the condensate discharge pipe in accordance with prevailing standards.

4.5 Gas connection




For the connection(s) of the boiler **C 630**: The features and instructions described are for each boiler module.

**WARNING**

- ▶ Close the main gas valve before starting work on the gas pipes.
- ▶ Also fit a gas cock near the boiler.
- ▶ Eliminate debris and dust from the gas pipes.



The boiler is fitted with a gas filter as standard.

1. Remove the dust cap on the gas connection .
2. Connect the gas inlet pipe (Please refer to local rules).

4.6 Connections for the air and exhaust pipes



The boiler is suitable for the following types of flue gas connections. See chapter: "Certifications", page 11

Follow applicable local guidelines when connecting the flue gas discharge and air supply pipes to the boiler. The diameters of the pipes must be defined in accordance with the standards in force in your country. The total resistance of the flue gas discharge and air supply must not exceed the maximum acceptable resistance.



To determine the maximum length of the air pipes and flue gas pipes. See chapter: "Lengths of the air/flue gas pipes", page 32



With room sealed operation, make sure the dirt trap in the boiler air supply remains accessible. For example, fit a T piece with an inspection hatch in the air supply pipe directly above the boiler.



With a flue gas connection of two or more **C 330 ECO** boilers, certain fan speeds need to be changed. Change the values of parameters **P18**, **P19** and **P20** for each boiler in the flue gas connection. Set them to the values as specified in the parameter table for the **C 630 ECO** boiler.



See the manual for the control panel.

4.6.1. Classification

The table specifies this classification in detail according to **CE**.

Type	Execution	Description
B23 B23P ⁽¹⁾	Open flue	<ul style="list-style-type: none"> ▶ Without fire-stop approval. ▶ Exhaust of combustion gases above the roof. ▶ Air in the installation room.
B33	Open flue	<ul style="list-style-type: none"> ▶ Without fire-stop approval. ▶ Common exhaust of combustion gases above the roof. ▶ Common exhaust of combustion gases mixed in the air, air in the installation room (special construction).
C33	Room sealed flue	<ul style="list-style-type: none"> ▶ Exhaust of combustion gases above the roof. ▶ The opening for the air-supply inlet is located in the same pressure zone as the vent (For example, a concentric passage to the roof).
C53	Room sealed flue	<ul style="list-style-type: none"> ▶ Closed equipment. ▶ Separate channelling for the air-supply. ▶ Separate channelling for the combustion gases. ▶ Air-supply inlet and flue gas outlet are located in different pressure zones.
C63	Room sealed flue	<ul style="list-style-type: none"> ▶ The manufacturer delivers this type of equipment without a supply or exhaust system.
C83 ⁽²⁾	Room sealed flue	<ul style="list-style-type: none"> ▶ The equipment can be connected on a so-called semi-CLV system (with common combustion gas exhaust).
C93 ⁽³⁾	Room sealed flue	<ul style="list-style-type: none"> ▶ Channel for the air-supply and exhaust fumes in a duct or surrounded by a sleeve: <ul style="list-style-type: none"> – Concentric. – Eccentric; Air supply from the shaft. – Exhaust of combustion gases above the roof. – The opening for the air-supply inlet is located in the same pressure zone as the vent.
(1) Including the pressure classification P1 (2) An under pressure of 4 mbar is possible (3) Ask your supplier for minimum dimensions of duct or sleeve		

4.6.2. Outlets

The boilers can be used in room-ventilated or room-sealed operation. The air supply connection kit must be used for closed configurations (This is available as an accessory).

The flue gas pipes must be calculated conforming to EN 13384 (parts 1 & 2).



For open exhaust of combustion gases above the roof, the vent must always be provided with a suitable stainless steel wire grill.

4.6.3. Lengths of the air/flue gas pipes



- ▶ To define the maximum final length, you must deduct the pipe length in accordance with the reduction table.
- ▶ The boiler is also suitable for longer chimney lengths with diameters other than those indicated in the table. Please contact us for further information.

■ Open flue (B23, B23P)

If using an open flue version, the air supply opening remains open; only the combustion gas opening is connected. The boiler then takes in the combustion air required directly from the premises in which it is installed. For the application of air discharge and combustion gas discharge piping with a diameter other than 250 mm, a reducer should be used.



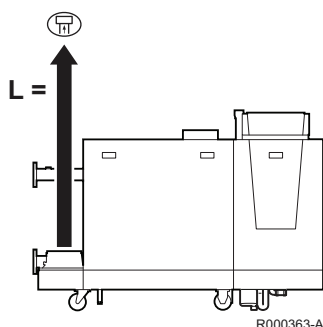
CAUTION

- ▶ If the boiler, in room ventilated operation, has been set up in a (very) dusty room, use the air supply filter (Accessory).
- ▶ Use of the air supply filter is compulsory when the boiler is exposed to building dust.



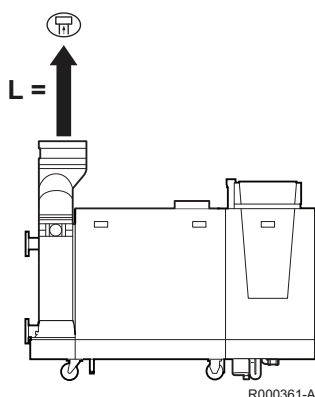
CAUTION

- ▶ The air supply opening must remain open.
- ▶ The premises in which the appliance is installed must be fitted with the necessary air supply openings. They must not be reduced or closed.



C 330 ECO	Chimney length for the open flue version			
Boiler type	Maximum length (L) ⁽¹⁾			
	with a Ø of 150 mm	with a Ø of 180 mm	with a Ø of 200 mm	with a Ø of 250 mm
280	20 m	50 m	50 m	50 m
350	11 m	30 m	50 m	50 m
430	8 m	22 m	39 m	50 m
500	7 m	18 m	32 m	50 m
570	5 m	13 m	24 m	50 m
650	5 m	12 m	21 m	50 m

(1) Calculated with rigid pipe and Outlet without hood (open 'free')

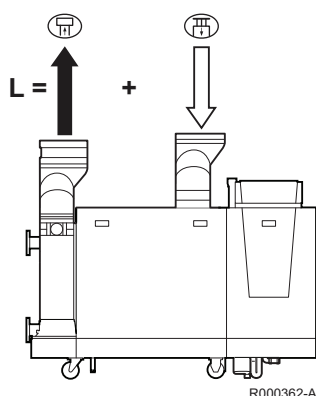
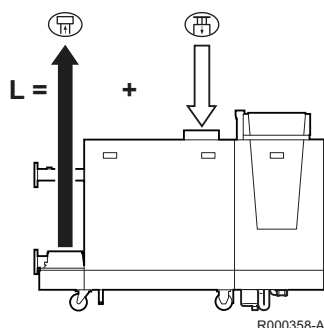


C 630 ECO	Chimney length for the open flue version		
Boiler type	Maximum length (L) ⁽¹⁾		
	with a Ø of 250 mm	with a Ø of 300 mm	with a Ø of 350 mm
560	50 m	50 m	50 m
700	31 m	50 m	50 m
860	20 m	50 m	50 m
1000	11 m	39 m	50 m
1140	5 m	26 m	50 m
1300	5 m	26 m	50 m

(1) Calculated with rigid pipe and Outlet without hood (open 'free')

■ Room sealed flue (C33, C63, C93)

If using a room sealed version, it is necessary to connect both the combustion gas exhaust and the air-supply opening (parallel). For the application of air discharge and combustion gas discharge piping with a diameter other than 250 mm, an adapter should be used.



C 330 ECO	Chimney length for room sealed operation		
Boiler type	Maximum length (L) ⁽¹⁾		
	with a Ø of 200 mm	with a Ø of 250 mm	with a Ø of 300 mm
280	42 m	50 m	50 m
350	21 m	50 m	50 m
430	13 m	50 m	50 m
500	10 m	50 m	50 m
570	5 m	34 m	50 m
650	4 m	30 m	50 m

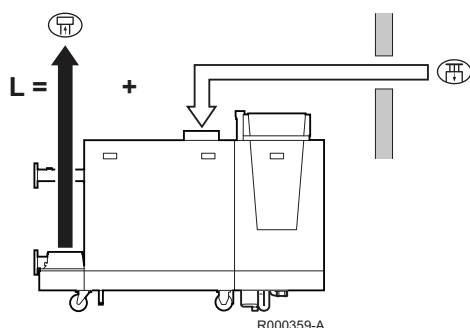
(1) Calculated with rigid pipe and Outlet without hood (open 'free')

C 630 ECO	Chimney length for room sealed operation		
Boiler type	Maximum length (L) ⁽¹⁾		
	with a Ø of 300 mm	with a Ø of 350 mm	with a Ø of 400 mm
560	50 m	50 m	50 m
700	43 m	50 m	50 m
860	26 m	50 m	50 m
1000	13 m	35 m	50 m
1140	5 m	16 m	24 m
1300	5 m	18 m	28 m

(1) Calculated with rigid pipe and Parallel roof feed-through 350 mm (Accessory)

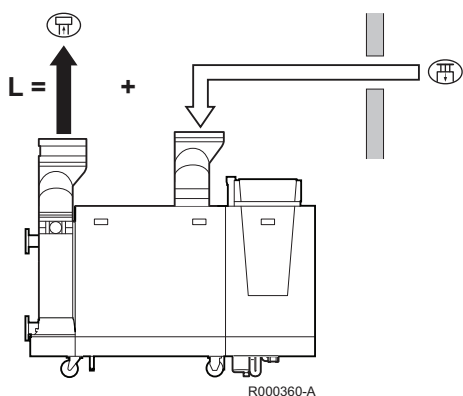
■ (C53, C83) connection

Combustion air supply and combustion gas discharge are possible in various pressure zones, semi-CLV systems. With the exception of coastal areas. The maximum permissible difference in height between the combustion air supply and the combustion gas discharge is 36 m.



C 330 ECO	Chimney length in the various pressure zones
Boiler type	Maximum length (L) ⁽¹⁾
	with a Ø of 250 mm
280	50 m
350	50 m
430	50 m
500	50 m
570	49 m
650	40 m

(1) Calculated with rigid pipe and Elbow 90° and Outlet without hood (open 'free')



C 630 ECO	Chimney length in the various pressure zones	
Boiler type	Maximum length (L) ⁽¹⁾	
	with a Ø of 350 mm	with a Ø of 400 mm
560	50 m	50 m
700	50 m	50 m
860	50 m	50 m
1000	33 m	50 m
1140	-	22 m
1300	8	32 m

(1) Calculated with rigid pipe and Elbow 90° and Outlet without hood (open 'free')

■ Reduction table

Pipe reductions per element used		
Diameter	Elbow 45°	Elbow 90°
	Pipe reduction	Pipe reduction
150 mm	1,2 m	2,1 m
180 mm	1,4 m	2,5 m
200 mm	1,6 m	2,8 m
250 mm	2,0 m	3,5 m
300 mm	2,4 m	4,2 m
350 mm	2,8 m	4,9 m
400 mm	3,2 m	5,6 m

4.6.4. Additional Directives

- ▶ Please refer to the manufacturer's instructions for the material in question when installing the flue gas discharge and air supply materials. If the flue gas discharge and air supply materials are not installed according to the instructions (e.g. they are not leakproof, not clamped in place etc.), this may cause hazardous situations and/or result in bodily injury. After assembly, check at least all flue gas and air-carrying parts for tightness.
- ▶ Connection of the combustion gas exhaust directly to the buildings brick chimneys or flues is forbidden for condensation reasons.
- ▶ Always clean the ducts thoroughly in cases where lining pipes are used and/or a connection of the air-supply.
- ▶ It must be possible to inspect the flue or chimney.
- ▶ .
- ▶ For long, aluminium, combustion-gas exhaust pipes it is initially necessary to consider the relatively high quantity of corrosive products which are brought together with the condensate from the exhaust pipe. The siphon on the equipment requires regular cleaning or, preferably, an additional condensate collector can be installed above the equipment.

- ▶ The combusted gas discharge pipe must be sufficiently inclined towards the boiler (at least 50 mm per metre) and an adequate condensate collection tank and discharge system constructed (at least 1 m before the boiler opening). The elbows fitted must be at more than 90° to guarantee the provision of an adequate gradient and tightness on the lip rings.

4.6.5. Connection of the combustion gas exhaust pipe

The boiler is equipped with a mechanical flue gas non-return valve as standard. This prevents flue gas travelling back up into the boiler when it is not in operation. (E.g. for cascade systems).

Mounting

1. Fit the combustion product discharge conduit.
2. Fit together the combustion gas exhaust pipes, without welding.



- ▶ The pipes must allow no leakage of flue gases and be resistant to corrosion.
- ▶ Connect the pipes together without stress between the sections.
- ▶ Maximum bracket distance from vertical pipes is 2 m.
- ▶ Maximum tilt of vertical pipes is 20 mm/m.
- ▶ The pipes must not rest on the boiler or flue gas adapter.
- ▶ The horizontal sections need to be constructed with a gradient of 50 mm per metre: Boiler orientation.
- ▶ Use a bracket at each connection from horizontal pipes.

4.6.6. Connection of the air intake pipe

Mounting

1. Fit the air-intake conduit.
2. Fit the air-intake conduits together without welding.



- ▶ The pipes must be airtight and corrosion-resistant.
- ▶ Connect the pipes together without stress between the sections.
- ▶ Maximum bracket distance from vertical pipes is 2 m.
- ▶ Maximum tilt of vertical pipes is 20 mm/m.
- ▶ The pipes must not rest on the boiler or air supply adapter.
- ▶ The horizontal sections need to be constructed with a gradient: Downwards in the direction of the supply opening.
- ▶ Use a bracket at each connection from horizontal pipes.

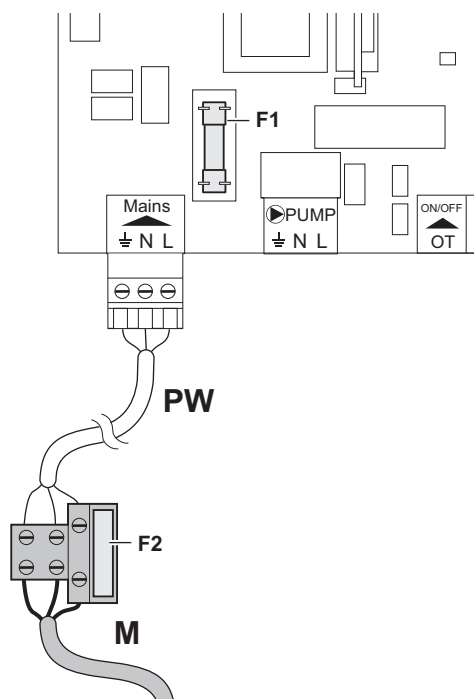
Material	
A rigid wall	aluminium/Stainless steel ⁽¹⁾
Flexible	
(1) The materials used must comply with the prevailing regulations and standards	

4.7 Electrical connections



For the connection(s) of the boiler **C 630 ECO**: The features and instructions described are for each boiler module.

4.7.1. Control unit



T003486-E

PW Pre-wired in the boiler

M Three wired power cord

The boiler has a detection phase. The boiler is fully pre-wired. The boiler is suitable for a 230 V / 50 Hz power supply with live/neutral/earth. Other connection values are only acceptable if an isolating transformer is installed. Connect the wires of the mains lead to the appropriate terminal block. This can be found to the left underneath the connector **MAINS**. (The mains lead is not supplied).



CAUTION

- ▶ In the case of a fixed connection to the power cord, you must always install a main bipolar switch with an opening gap of at least 3 mm.

The main characteristics of the control unit are described in the table below.

Power supply voltage	230 VAC/50Hz
Rating of the main fuse F2 (230 VAC)	10 AT
Fuse rating F1 (230 VAC)	2 AT
Maximum power consumption of the pump	300 VA



WARNING

The following boiler components are at a voltage of 230V:

- ▶ Electrical connection of the heating pump (Central heating) (if used).
- ▶ Electrical connection of the combined gas valve unit.
- ▶ Fan.
- ▶ The majority of components in the control panel.
- ▶ Ignition transformer.
- ▶ Connection of the power supply cable.

**CAUTION**

Keep to the polarity shown on the terminals: phase (L), neutral (N) and earth $\frac{1}{\text{PE}}$.



The boiler has a unique boiler code. This, together with other data, incl. boiler type, counter readings, etc. is stored in a (**PSU**) that belongs with the boiler. If the control unit is replaced, the counter readings remain stored in it.

It is possible to connect various control, safety and regulation systems to the boiler. The heat output of the boiler can be controlled as follows:

- ▶ Adjustable control: The output varies between the minimum and maximum value on the basis of the value determined by the controller.
- ▶ Analogue setting : Where the heat output or the temperature is controlled by a 0-10V signal. (Standard with Diematic iSystem - Only possible with the **SCU-05** or **IF01** control board with IniControl).
- ▶ On/Off setting: where the heat output modulates between the minimum and maximum value based on the flow temperature set in the boiler.

4.7.2. Recommendations

**WARNING**

- ▶ Only qualified professionals may carry out electrical connections, always with the power off.
- ▶ The boiler is entirely pre-wired. Do not modify the connections inside the control panel.
- ▶ Earth the appliance before making any electrical connections.

Make the electrical connections of the boiler according to:

- ▶ The instructions of the prevailing standards.
- ▶ The instructions on the electrical diagrams provided with the boiler.
- ▶ The recommendations in the instructions.

**CAUTION**

- ▶ Separate the sensor cables from the 230 V cables.
- ▶ Outside the boiler: Use 2 pipes or cable guides at least 10 cm apart.

4.7.3. Standard control PCB

The protection PCB **SU**, which protects the boiler, is connected to the standard control PCB **PCU-06**.

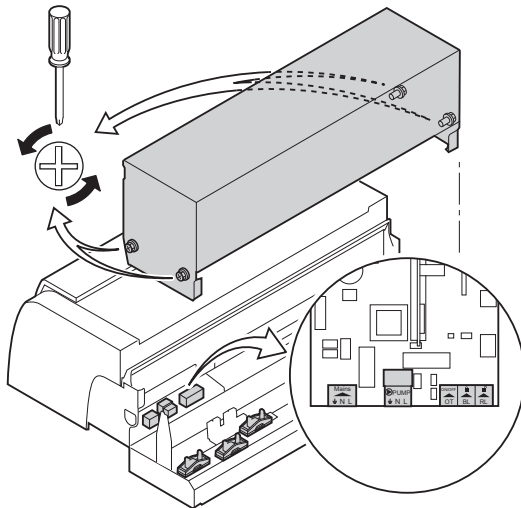
Various thermostats and controllers can be connected to the standard control PCB (**PCU-06**). The possible connections on the standard control PCB are described in the following paragraphs.



A clearance of 20 cm is required above the instrument panel to allow the front cover to open fully.

Access to the connector block:

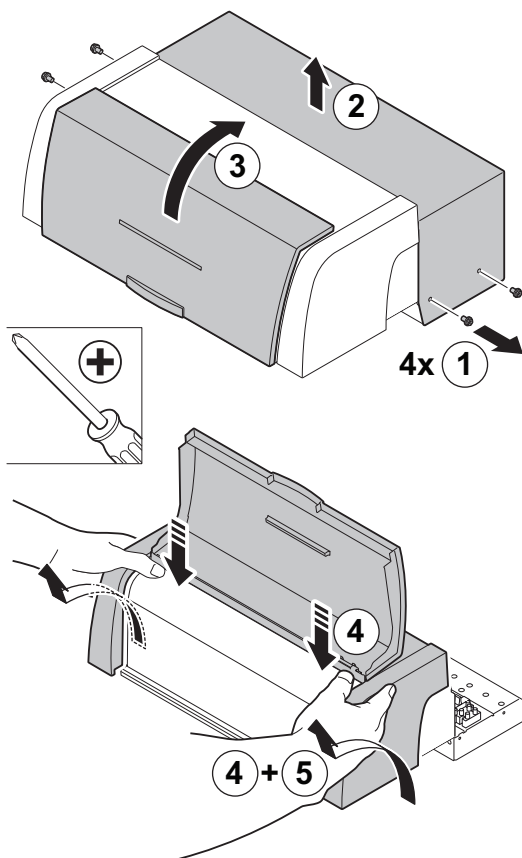
1. Unscrew the 4 lateral holding screws in the control panel.
2. Remove the protective cover.
3. The detachable screw connectors are now accessible.
4. Secure cable(s) using the traction clip and the cable clamps (The cable clamps are supplied separately).
5. Firmly retighten the cable clamps and close the control panel.



T003477-D

Accessing the PCBs behind the control panel:

1. Unscrew the 4 lateral holding screws in the control panel.
2. Remove the protective cover.
3. Open the front cover.
4. Use both thumbs to press the top of the control panel downwards a little.
5. While maintaining some of the pressure you are applying to the top of the control panel, use both hands to tip the casing forwards and upwards.



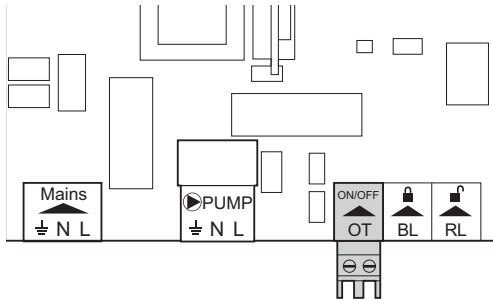
T004637-B

4.7.4. Connecting the on/off control



This function is only available with the IniControl control panel.

The boiler can be controlled with an on/off controller. Connect the controller to the **ON/OFF-OT** connector. (It does not matter which wire is connected to which cable clamp).



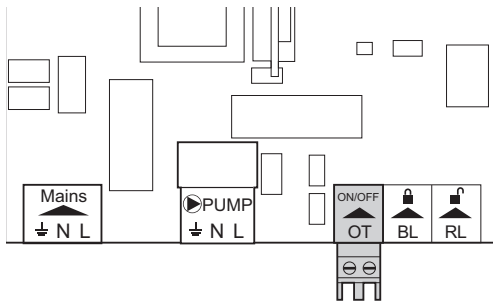
T003482-A

4.7.5. Connecting modulating controller



This function is only available with the IniControl control panel.

The boiler is fitted with a **OpenTherm** connection as standard. As a result, modulating **OpenTherm** room controllers can be connected without any further adjustments. Connect the two-wire cable to terminals **ON/OFF-OT** of the connector (It does not matter which wire is connected to which cable clamp).



T003482-A

4.7.6. Shutdown input

The behaviour of the inlet can be modified using the **IN.BL** (Diematic iSystem) or **P.3.5** (IniControl) parameter.

4.7.7. Release input

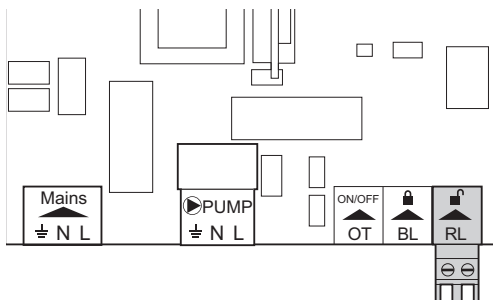
The boiler has a release input (Normally open contact). If this contact is closed when there is a heat demand, the burner will go into shutdown after a waiting time. This input can be used in combination with the limit switches on flue gas dampers, hydraulic shutter valves, etc.. This input is on the **RL** terminals of the connector.



CAUTION

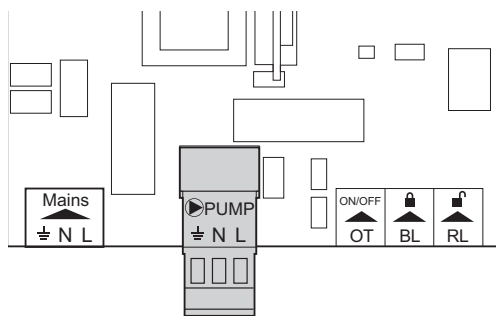
Only suitable for potential-free contacts.

The behaviour of the inlet can be modified using the **IN.BL** (Diematic iSystem) or **P.3.2** (IniControl) parameter.



T003484-B

4.7.8. System pump

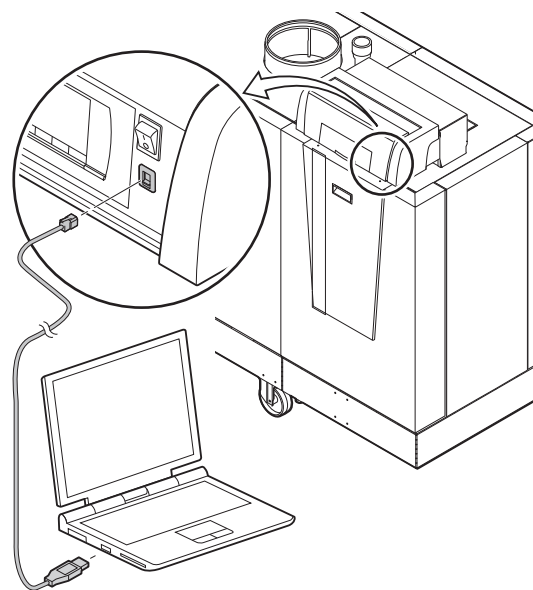


T003485-B

An external central heating pump can be connected to the **Pump** terminals of the connector. The maximum input power is 300 VA.

For more information on controlling a modulating pump See paragraph: "Connection possibilities for the PCB (SCU-S05)", page 42

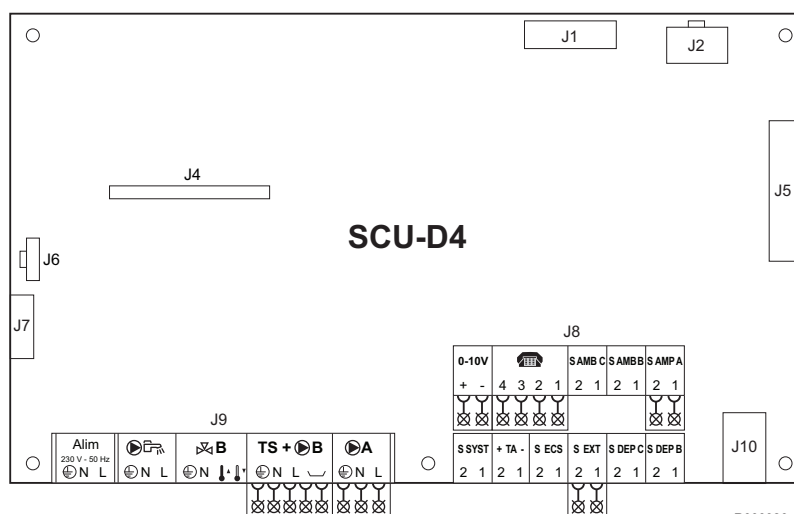
4.7.9. PC/Laptop connection




T003492-E

A PC can be connected to the **RS 232** input using an USB cable. Using the **Recom** PC/Laptop service software, you can enter, change and read out various boiler settings.

4.7.10. Connection possibilities for the PCB (SCU-D4)

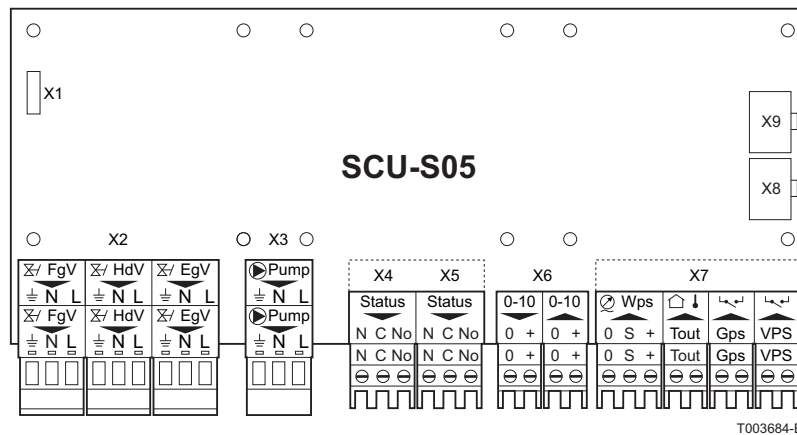



R000320-A

 For connection options to the SCU-D4 control PCB: See the installation, user and service manual of controller IniControl / Diematic iSystem.

4.8 Optional electrical connections

4.8.1. Connection possibilities for the PCB (SCU-S05)



 To set the parameter selected: See the manual for the control panel.



CAUTION

When this PCB is removed, the boiler will display the error code **L.3.8** (Diematic iSystem) or **E:3.8** (IniControl). To prevent this fault, an auto-detect must be carried out after removing this PCB.

■ Flue gas damper control (FgV)

Not applicable.

■ Hydraulic valve control (HdV)

In a cascade configuration, a hydraulic valve prevents heat loss when the boiler is not running. Connect the hydraulic valve to the **HdV** terminals of the terminal strip. The operating time for the hydraulic valve must be programmed with parameter {TIME DEL.HYDRAU.V.} or **P.3.0** (IniControl).

■ Control of external gas valve (EgV)

Diematic iSystem: This function is available as standard.

IniControl: If there is a heat demand, an alternating voltage of 230 VAC, 1 A (maximum) becomes available on the **EgV** terminals of the connector to control an external gas valve.

■ Connecting a shunt pump (Pump)

If required, a shunt pump may also be installed on the terminals **Pump** of the connector. Only an on/off pump can be controlled. The pump is activated during blockages {BL.DERIVE EXCH}{BL.DT EXC.BACK} and **BL.DT BOI.EXC.** (Diematic iSystem) or **54:9** (**54:4,5** and **5**) (IniControl). The maximum input power is 300 VA.

■ Operation signal and failure signal (Status)

Diematic iSystem: For connection to the boiler's S.TEL outlet.



For the settings, refer to the control panel manual.

IniControl: The alarm or operation signal is selected using parameter **P26** (Connector **X4**). The alarm or operation signal is selected using parameter **P27** (Connector **X5**).

- If the boiler is operating, the operation signal can be switched via a potential-free contact (maximum 230 VAC, 1 A) on the **No** and **C** terminals of the connector.
- If the boiler locks out, the alarm can be transmitted via a potential-free contact (maximum 230 VAC, 1 A) on the **Nc** and **C** terminals of the connector.

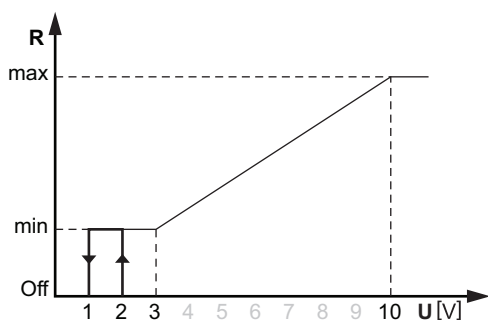
■ Analogue output (0-10 V)

The analogue output function can be set with parameter {ANALOG OUTL} or **P36** (IniControl).

An outgoing 0-10 V signal can be used either to report the supplied heat output or the supplied temperature.

The speed of the system pump can be controlled with an outgoing 0-10 V signal. (Only possible if the pump is suitable for this).

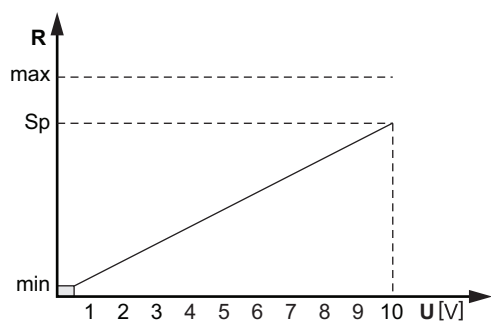
Control of 0-10V Wilo system pump



T003802-B

R	Pump regime
min	Minimum pump speed
max	Maximum pump speed
Off	The pump is off
U	Output signal (V)

Output signal (V)	Description
< 1	Pump off
1 - 2	Hysteresis
2 - 3	Pump on (Minimum pump speed)
3 - 10	Pump modulates (Linear)



T003803-B

Control of 0 - 10 V Grundfos system pump

R	Pump regime
min	Minimum pump speed
max	Maximum pump speed
Sp	Nominal set-point
U	Output signal (V)

Output signal (V)	Description
< 0,5	Pump on (Minimum speed)
> 0,5	Pump modulates (Linear)

Control of PWM system pump

In this case, the 0-10 V signal controls the system pump linear.

Message about the supplied temperature

Output signal (V)	Temperature °C	Description
0,5	-	Lock out
1 - 10	10 - 100	Delivered temperature

Message about the supplied heat output

Output signal (V)	Heat output (%)	Description
0	0	Boiler off
0,5	-	Lock out
2,0 - 10 ⁽¹⁾	20 - 100	Heat output supplied

(1) Dependent on the minimum modulation depth (set speeds, standard 20%)

■ Analogue input (0-10 V)

Diematic iSystem: For connection to the boiler's **IN 0-10V** input.

For the settings, refer to the control panel manual.

IniControl: The function of the analogue input can be set using parameter **P37**.

This control can be based on temperature or heat output. If this input is used for 0-10 V control, then the boiler OT communication is ignored.

Analogue temperature-based control (°C)

The 0 - 10 V signal controls the boiler flow temperature. This control modulates on the basis of flow temperature, whereby the heat output varies between the minimum and maximum values on the basis of the flow temperature set point calculated by the controller.

Input signal (V)	Temperature °C	Description
0 - 1,5	0 - 15	Boiler off
1,5 - 1,8	15 - 18	Hysteresis
1,8 - 10	18 - 100	Temperature required

Analogue heat output-based control (%)

The 0 - 10 V signal controls the boiler output. The minimum and maximum values are limited. The minimum output is linked to the boiler's modulation depth. The output varies between the minimum and maximum value on the basis of the value determined by the controller.

Input signal (V)	Heat output (%)	Description
0 - 2,0 ⁽¹⁾	0 - 20	Boiler off
2,0 - 2,2 ⁽¹⁾	20 - 22	Hysteresis
2,0 - 10 ⁽¹⁾	20 - 100	Heat output requested

(1) Dependent on the minimum modulation depth (set speeds, standard 20%)

■ Hydraulic pressure sensor (Wps)

The minimum pressure switch stops the boiler when the minimum pressure is insufficient. To activate the blockage function, it is necessary to set a minimum pressure with parameter {MIN PRESSURE} or **P128** (IniControl) (Factory setting 0 = off). Connect the hydraulic pressure sensor to the **Wps** terminals of the terminal strip.

0 = Earth or neutral of the power supply

S = Signal or output from the sensor

+ = Supply voltage

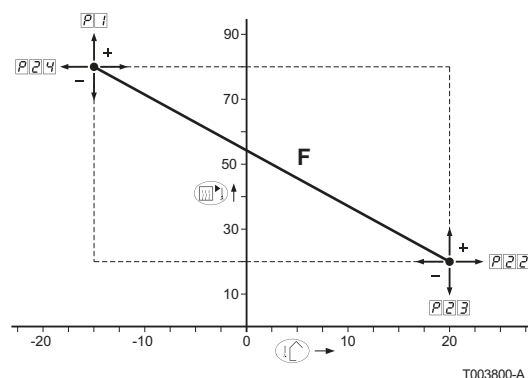
■ Connecting the (Tout) outside temperature sensor

Diematic iSystem: The outside temperature sensor must be connected to the **S.EXT** input. The heating curve can be set with parameters **CIRC.CURVE A**, **CIRC.CURVE B**, **CIRC.CURVE C** and **HCZP D A**, **HCZP D B**, **HCZP D C**

IniControl: An outside sensor can be connected to the **Tout** terminals of the connector (Accessory). Where there is an on/off thermostat controller, the boiler will control the temperature with the set point of the internal heating curve.



A **OpenTherm** controller can also use this outside sensor. The heating curve required must then be set on the controller.



If an outside temperature sensor is connected, it is possible to adapt the heating curve. The setting can be modified using parameters **P11**, **P22**, **P23** and **P24**.

■ Pressure switch minimum (Gps)

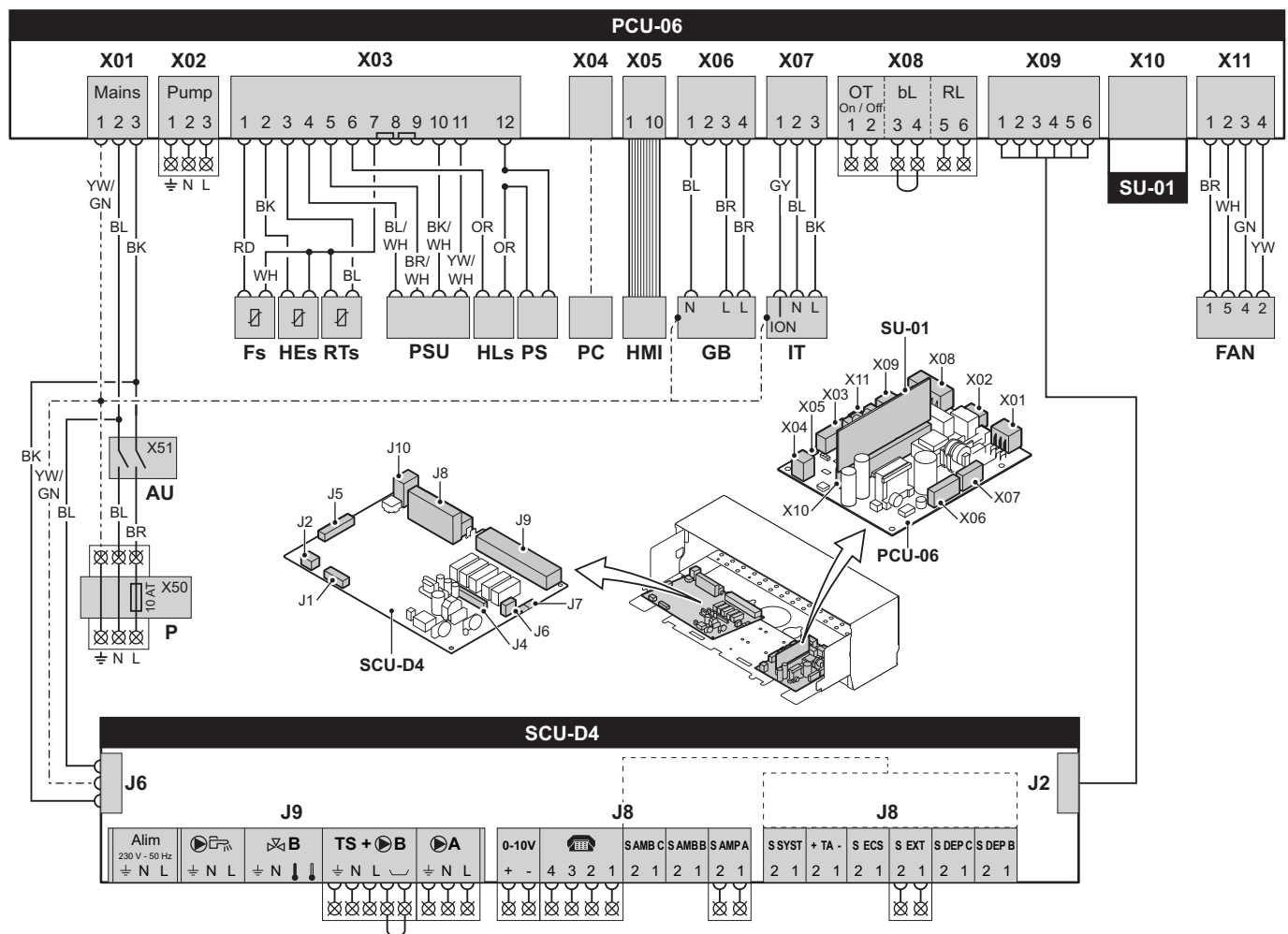
The minimum gas pressure switch shuts the boiler down if the inlet gas pressure becomes too low. The pressure switch must be set at 10 mbar. Connect the minimum gas pressure switch to the **Gps** terminals of the connector. Presence of the minimum gas pressure switch must be activated by means of setting parameter {PSG :} or **P 2 9** (IniControl).

■ Gas valve leak proving system (Vps)

The gas leakage control checks and controls the safety valves on the gas block. The test takes place before the boiler starts up. In the event of a leak in the gas block, the boiler will lock out. The pressure switch must be set at 50 % of the admission pressure (Up to 40 mbar). Connect the gas leakage control to the Vps terminals of the terminal strip. Presence of the gas leakage control must be specified using parameter {CCE :} or **P 3 3** (IniControl) in settings mode.

Boiler type C330 ECO	Gas inlet pressure	VPS setting (Max)
280	30	15
350	30	15
430	100	40
500	100	40
570	100	40
650	50	25

4.9 Electrical diagram



R000314-B

SCU-D4	Extended control PCB	RTs	Return sensor
PCU-06	Standard control PCB	PSU	Storage parameter
SU-01	Safety PCB	HLs	Safety thermostat
AU	On/Off switch	PS	Air differential pressure switch
P	Power supply	PC	Connecting a computer
N	Neutral	HMI	Control panel
L	Phase	GB	Gas block
Fs	Flow switch	IT	Ignition transformer
HEs	Heat exchanger sensor	FAN	Fan

4.10 Filling the system



CAUTION

Great care is required during water treatment. For more information, refer to our publication water quality rules. The rules in the aforementioned document must be respected. This manual forms a part of the documentation supplied with the boiler.

4.10.1. Water treatment

In most cases, the boiler and the central heating installation can be filled with normal tap water and no water treatment will be necessary.



WARNING

Do not add chemical products to the central heating water without first consulting a water treatment professional. For example: antifreeze, water softeners, products to increase or reduce the pH value, chemical additives and/or inhibitors. These may cause faults in the boiler and damage the heat exchanger.



- ▶ Rinse the central heating installation with at least 3x the volume of the central heating installation. Flush the DHW pipes with at least 20 times the volume of the pipes.

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

		Total installed heat output (kW)			
		≤ 70	70 - 200	200 - 550	> 550
Degree of acidity (water non-treated)	pH	7 - 9	7 - 9	7 - 9	7 - 9
Degree of acidity (water treated)	pH	7 - 8,5	7 - 8,5	7 - 8,5	7 - 8,5
Conductivity at 25°C	µS/cm	≤ 800	≤ 800	≤ 800	≤ 800
Chlorides	mg/l	≤ 150	≤ 150	≤ 150	≤ 150
Other components	mg/l	< 1	< 1	< 1	< 1
Total water hardness ⁽¹⁾	°f	1 - 35	1 - 20	1 - 15	1 - 5
	°dH	0,5 - 20,0	0,5 - 11,2	0,5 - 8,4	0,5 - 2,8
	mmol/l	0,1 - 3,5	0,1 - 2,0	0,1 - 1,5	0,1 - 0,5

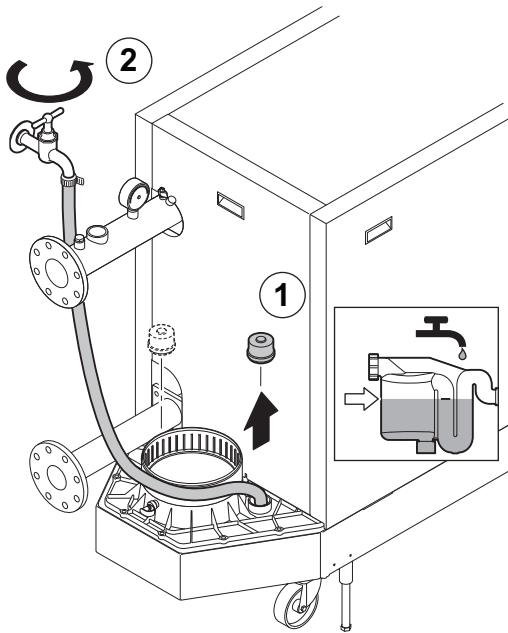
(1) For installations that are heated at constant high temperatures with a total installed heat output; up to 200 kW a maximum total water hardness of 8,4 °dH (1,5 mmol/l, 15 °f) applies and for above 200 kW a maximum total water hardness of 2,8 °dH (0,5 mmol/l, 5 °f) applies



If a water treatment is necessary, **De Dietrich Thermique** recommends the following manufacturers:

- ▶ Cillit
- ▶ Climalife
- ▶ Fernox
- ▶ Permo
- ▶ Sentinel

4.10.2. Filling the siphon



T003489-D

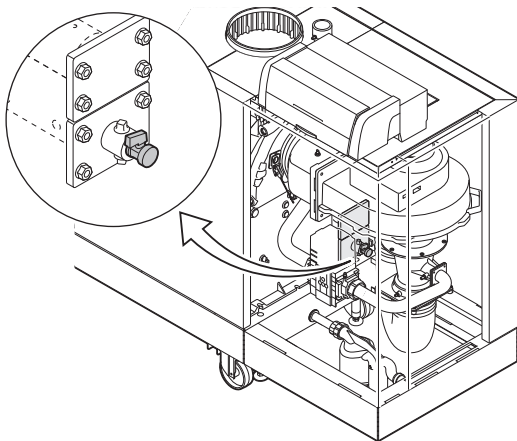
1. Fill the siphon with water via the condensate tank (Up the level marker).



CAUTION

Reinsert the condensate collector sealant cap.

4.10.3. Filling the system



T003772-F

1. Fill the system with clean tap water. The boilers can function at an operating pressure of between 0,8 - 7 bar.
2. Check the tightness of the water connections.



If the hydraulic pressure is lower than 0.8 bar (Only with the hydraulic pressure sensor connected):

- ▶ DIEMATIC iSystem control panel: The symbol **bar** flashes.
- ▶ IniControl control panel: The pressure value is displayed on the screen.

If necessary, top up the water level in the heating system.

- ▶ A filling and drain cock is fitted on the front section as standard ($\frac{1}{2}$ ").

5 Commissioning

5.1 Control panel



For operation of the boiler **C 630 ECO**: Each module has its own instrument panel.



See the manual for the control panel.

5.2 Check points before commissioning

5.2.1. Preparing the boiler for commissioning



For work on the boiler **C 630 ECO**: The features and instructions described are for each boiler module.



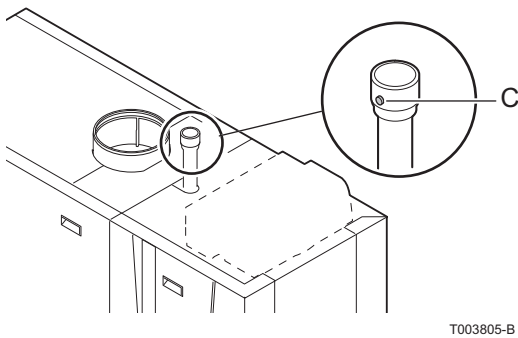
WARNING

Do not put the boiler into operation if the supplied gas is not in accordance with the approved gas types.

Preparatory procedure for boiler commissioning:

- ▶ Check that the gas type supplied matches the data shown on the boiler's data plate.
- ▶ Check the gas circuit.
- ▶ Check the hydraulic circuit.
- ▶ Check the water pressure in the heating system.
- ▶ Check the tightness of the flue gases evacuation and air inlet connections.
- ▶ Check the electrical connections to the thermostat and the other external controls.
- ▶ Check the other connections.
- ▶ Test the boiler at full load. Check the setting of the gas/air ratio and, if necessary, correct it.
- ▶ Test the boiler at part load. Check the setting of the gas/air ratio and, if necessary, correct it.
- ▶ Finalizing work.

5.2.2. Gas circuit




WARNING

Ensure that the boiler is switched off.

1. Open the main gas supply.
2. Remove the casings on the inspection side.
3. Measure the inlet gas pressure via the measuring point **C** on the gas pipe.
The pressure must be the same as the one shown on the rating plate.



WARNING

 To ascertain the gas types permitted, see chapter: "Equipment categories", page 12.

4. Check the tightness of the gas line, including the gas valves.
5. Purge the gas supply pipe by unscrewing the screw from the gas pressure socket **C**. Tighten the measurement point when the pipe has been sufficiently purged.

5.2.3. Hydraulic circuit

- ▶ Check the syphon — this must be completely filled with clean water (Up the level marker).
- ▶ Check the tightness of the water connections.

5.2.4. Connections for the air and exhaust pipes

- ▶ Check the tightness of the flue gases evacuation and air inlet connections.

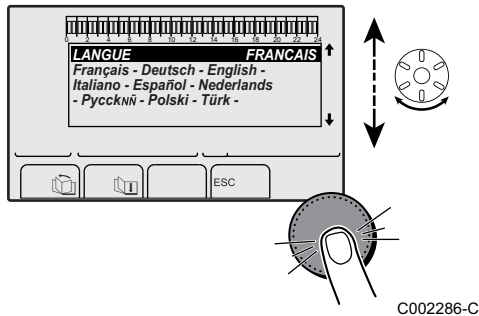
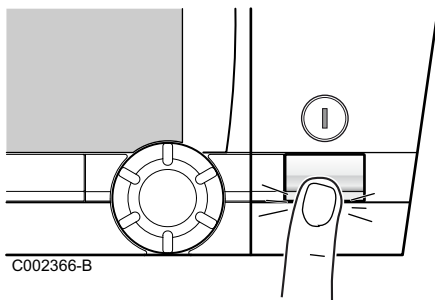
5.2.5. Electrical connections

- ▶ Check the electricity supply.
- ▶ Check the electrical connections.

5.3 Commissioning the boiler

5.3.1. DIEMATIC iSystem control panel

1. Open the main gas supply.
2. Open the gas valve on the boiler.



3. Turn on the boiler using the on/off switch.
4. The first time the boiler is powered up, the **LANGUAGE** menu is displayed. Select the desired language by turning the rotary button.
5. To confirm, press the rotary button.

Error during the start-up procedure:

- ▶ No information is shown on the display:
 - Check the mains supply voltage
 - Check the fuses
 - Check the connection of the power cable to the connector X1 on the PCU PCB
 - Check the display flat cable
- ▶ If there is a problem, the error is displayed on the screen.
 - ▶ See the manual for the control panel.

5.3.2. IniControl control panel

1. Open the main gas supply.
2. Open the gas valve on the boiler.
3. Turn on the boiler using the on/off switch.
4. Set the controls (thermostats, control system) so that they request heat.
5. The start-up cycle begins and cannot be interrupted. During the start-up cycle, the display shows the following information: A short test where all segments of the display are visible.
 - \overline{F} : XX : Software version
 - \overline{P} : XX : Parameter version
 The version numbers are displayed alternately.



By pressing the \leftarrow key for a short time, the current operating status is shown on the display:

Heat demand	Heat demand stopped
$\overline{1}$: Fan ON	$\overline{5}$: Burner stop
$\overline{2}$: Boiler is igniting	$\overline{6}$: Post-circulation of the pump
$\overline{3}$: Heating System	$\overline{0}$: Standby

In addition to $\overline{0}$, in STAND-BY the display normally shows the water pressure and the symbols ||||| , ⊙_{B} and ⊕_{A} .

Error during the start-up procedure:

- ▶ No information is shown on the display:
 - Check the mains supply voltage
 - Check the main fuses

- Check the fuses on the control panel:
(F1 = 2 AT, F2 = 8 AT)
- Check the connection of the mains lead to the connector **X1** in the instrument box
- ▶ A fault is indicated on the display by the fault symbol  and a flashing fault code.
 - The meaning of the error codes is given in the error table.
 - Press for 3 seconds on key  to restart the boiler.

5.4 Gas settings


5.4.1. Setting the air/gas ratio (Full load) (Dematic iSystem)

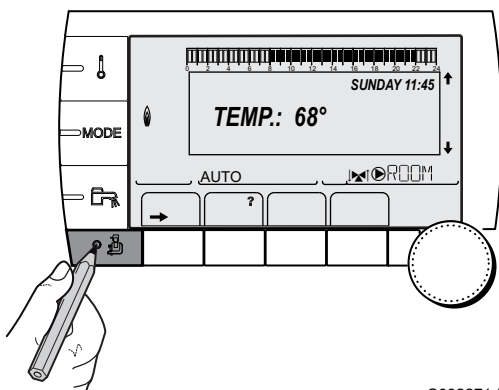
1. Unscrew the plug of the flue gas measurement point.
2. Connect the flue gas analyser.



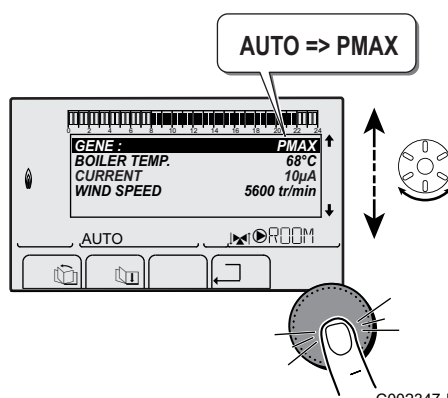
WARNING

Ensure that the opening around the sensor is completely sealed when taking measurements.

3. In the main display, press key . The menu **EMISSION MEASUREMENTS** is displayed on the screen.



C002271-F-04

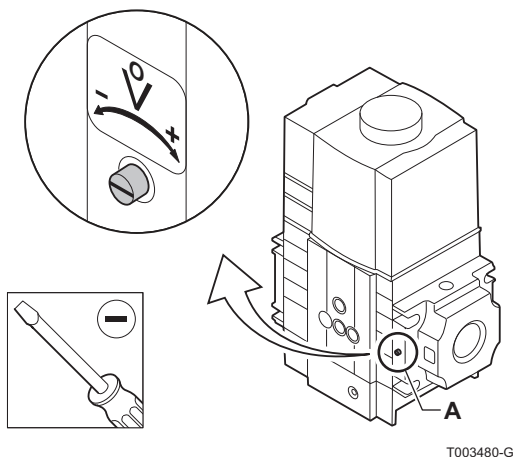
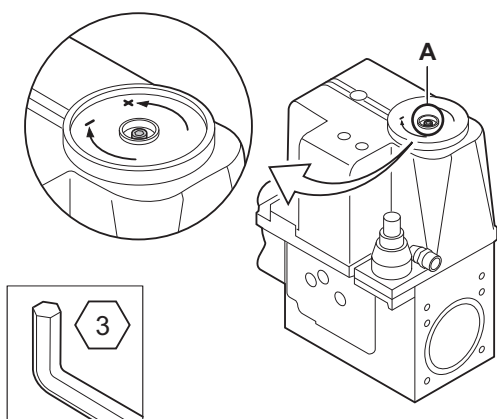


C002347-F-04

4. Turn the rotary button until **PMAx** is displayed. The full load is set.
5. Measure the percentage of O₂ or CO₂ in the flue gases.



The 5 to 9 section boilers are supplied with a different gas block from the 10 section boiler. See drawing for the position of control screw **A** for a full load.



T003480-G

- If this rate does not match the required value, correct the gas/air ratio using the adjustment screw **A** on the gas valve unit. The direction in which the adjustment screw must be turned to increase or decrease the gas flow is indicated on the gas block.
- Check the flame through the flame inspection window.



The flame must not be detached.

O ₂ /CO ₂ control and setting values at full load for G20 (Gas H)		
C330 ECO	O ₂ (%)	CO ₂ (%)
All versions	4,3 - 4,8 ⁽¹⁾	9,0 ⁽¹⁾ - 9,3
(1) Nominal value		



CAUTION

The CO₂ values when operating at full load must be higher than the values when operating at low load.


5.4.2. Setting the air/gas ratio (Part load) (Diematic iSystem)

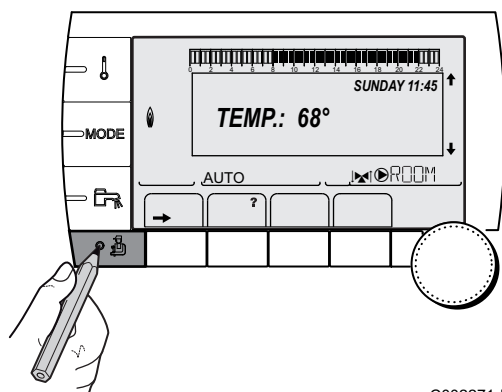
- Unscrew the plug of the flue gas measurement point.
- Connect the flue gas analyser.



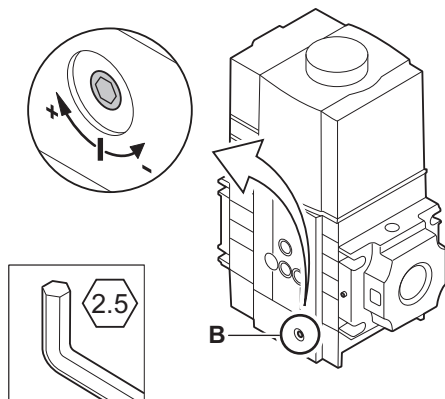
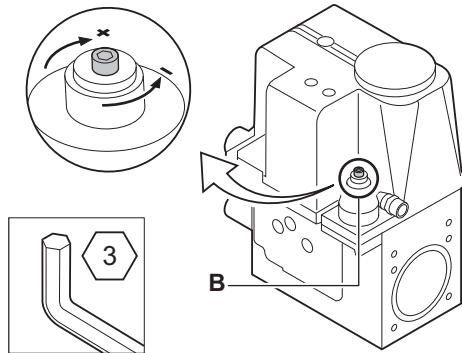
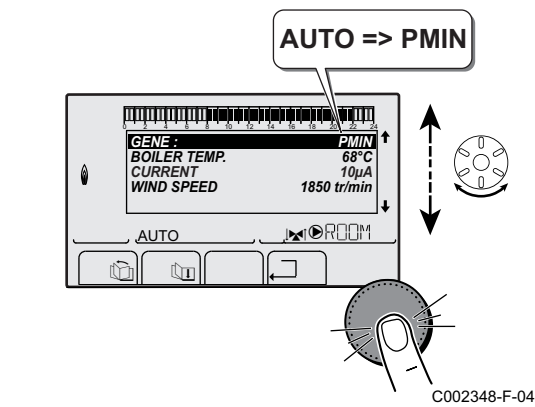
WARNING

Ensure that the opening around the sensor is completely sealed when taking measurements.

- In the main display, press key . The menu **EMISSION MEASUREMENTS** is displayed on the screen.



C002271-F-04



T003481-D

- Turn the rotary button until **PMIN** is displayed. The part load is set.
- Measure the percentage of O₂ or CO₂ in the flue gases.



The 5 to 9 section boilers are supplied with a different gas block from the 10 section boiler. See drawing for the position of control screw **B** for a low load.

- If this rate does not match the required value, correct the gas/air ratio using the adjustment screw **B** on the gas valve unit. The direction in which the adjustment screw must be turned to increase or decrease the gas flow is indicated on the gas block.
- Check the flame through the flame inspection window.



The flame must be stable.

O ₂ /CO ₂ control and setting values at part load for G20 (Gas H)		
C330 ECO	O ₂ (%)	CO ₂ (%)
All versions	4,8 ⁽¹⁾ - 5,4	8,7 - 9,0 ⁽¹⁾
(1) Nominal value		



CAUTION

The CO₂ values when operating at low load must be lower than the values when operating at full load.



Repeat the high speed test and the low speed test as often as necessary until the correct values are obtained without having to make additional adjustments.


5.4.3. Setting the air/gas ratio (Full load) (IniControl)

- Unscrew the plug of the flue gas measurement point.
- Connect the flue gas analyser.



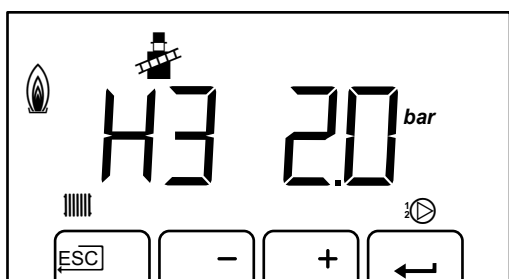
WARNING

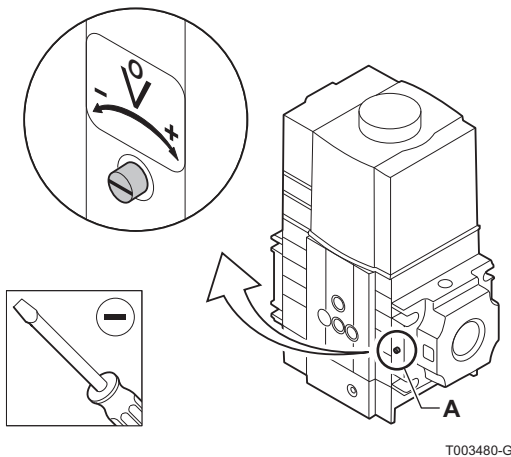
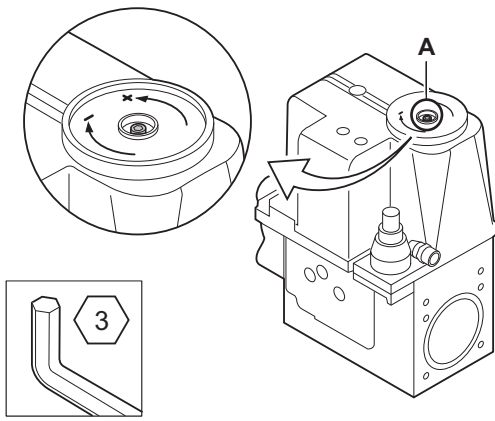
Ensure that the opening around the sensor is completely sealed when taking measurements.

- Set the boiler to full load. Press keys **A** and **B** simultaneously. The display shows **H3**. The symbol  appears.
- Measure the percentage of O₂ or CO₂ in the flue gases.



The 5 to 9 section boilers are supplied with a different gas block from the 10 section boiler. See drawing for the position of control screw **A** for a full load.





T003480-G

- If this rate does not match the required value, correct the gas/air ratio using the adjustment screw **A** on the gas valve unit. The direction in which the adjustment screw must be turned to increase or decrease the gas flow is indicated on the gas block.
- Check the flame through the flame inspection window.



The flame must not be detached.

O₂/CO₂ control and setting values at full load for G20 (Gas H)

C330 ECO	O ₂ (%)	CO ₂ (%)
All versions	4,3 - 4,8 ⁽¹⁾	9,0 ⁽¹⁾ - 9,3

(1) Nominal value



CAUTION

The CO₂ values when operating at full load must be higher than the values when operating at low load.


5.4.4. Setting the air/gas ratio (Part load) (IniControl)

- Unscrew the plug of the flue gas measurement point.
- Connect the flue gas analyser.



WARNING

Ensure that the opening around the sensor is completely sealed when taking measurements.

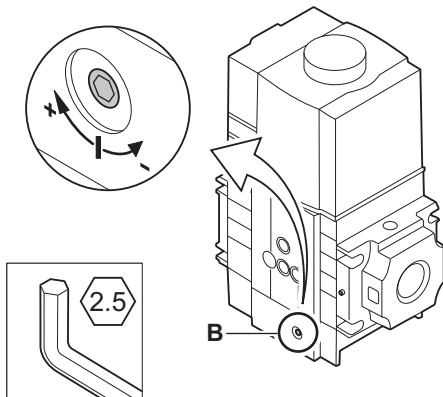
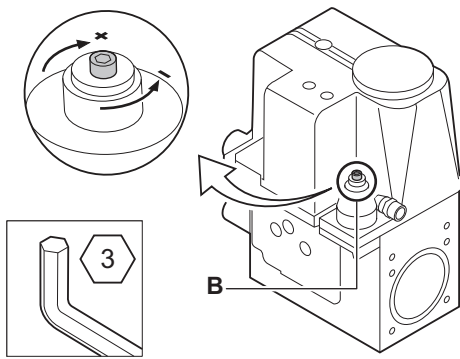
- Set the boiler to part load. Press keys **A** and **B** simultaneously. The symbol  appears. Press the **[-]** key until **L 3** is displayed.
- Measure the percentage of O₂ or CO₂ in the flue gases.



The 5 to 9 section boilers are supplied with a different gas block from the 10 section boiler. See drawing for the position of control screw **B** for a low load.



C003764-A



T003481-D

- If this rate does not match the required value, correct the gas/air ratio using the adjustment screw **B** on the gas valve unit. The direction in which the adjustment screw must be turned to increase or decrease the gas flow is indicated on the gas block.
- Check the flame through the flame inspection window.



The flame must be stable.

O ₂ /CO ₂ control and setting values at part load for G20 (Gas H)		
C330 ECO	O ₂ (%)	CO ₂ (%)
All versions	4,8 ⁽¹⁾ - 5,4	8,7 - 9,0 ⁽¹⁾
(1) Nominal value		



CAUTION

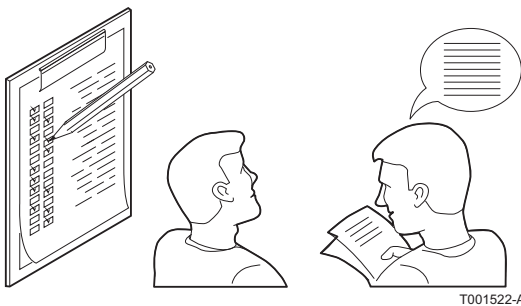
The CO₂ values when operating at low load must be lower than the values when operating at full load.



Repeat the high speed test and the low speed test as often as necessary until the correct values are obtained without having to make additional adjustments.

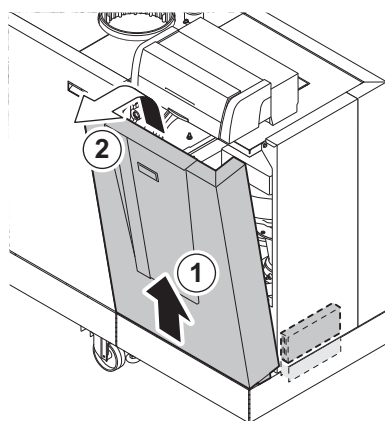
5.5 Checks and adjustments after commissioning

5.5.1. Finalizing work



T001522-A

- Remove the measuring equipment.
- Put the flue gas sampling plug back in place.
- If installed: Check the setting of the minimum gas pressure switch **Gps**. The pressure switch must be set at 10 mbar.
- If installed: Check the setting of the pressure switch for gas leakage control **Vps**. The pressure switch must be set at 50 % of the admission pressure (Up to 40 mbar).
 See chapter: "Connection possibilities for the PCB (SCU-S05)", page 42
- Reapply the casing on the inspection side.
- Raise the temperature in the heating system to approximately 70°C.
- Shut down the boiler.
- After about 10 minutes, vent the air in the heating system.
- Switch on the boiler.
- Checking the hydraulic pressure. If necessary, top up the water level in the heating system.
- Tick the gas category used on the data plate.
- Explain the operation of the installation, the boiler and the regulator to the users.



T003979-E

13. Give all the instruction manuals to the user. A documentation folder can be found in the frame of the boiler. Use it to store all boiler manuals together with other documents relating to the installation.



The various boiler parameters are preset in the factory. These factory settings are suitable for the most common heating systems. For other systems and situations, the parameters can be modified.

5.6 Reading out measured values



See the manual for the control panel.

5.7 Changing the settings

The boiler control panel is set for the most common heating systems. With these settings, practically all heating systems operate correctly. The user or installer can optimise the parameters according to own preferences.



See the manual for the control panel.

6 Switching off the boiler

6.1 Installation shutdown

6.1.1. Diematic iSystem



CAUTION

Do not switch off the boiler. If the central heating system is not used for a long period, we recommend activating the **HOLIDAYS** mode.



See the manual for the control panel.

6.1.2. IniControl

If the central heating system is not used for a long period, we recommend switching the boiler off.

- ▶ Switch the On/Off switch to Off.
- ▶ Switch off the boiler electrical power supply.
- ▶ Shut off the gas supply.
- ▶ Ensure that the boiler and system are protected against frost damage.



CAUTION

In the event of low temperatures, we recommend that the installation continues to operate at a lower temperature. This prevents freezing.

6.2 Frost protection

When the heating water temperature in the boiler falls by too much, the integrated protection system in the boiler starts up. This protection functions as follows:

(The circulation pump must be electrically connected to boiler)

- ▶ The circulation pump switches on if the water temperature is lower than 7°C.
- ▶ If the water temperature is lower than 4°C, the boiler starts up.
- ▶ If the water temperature is higher than 10°C, the boiler shuts down and the circulation pump continues to run for a short time

6.2.1. Diematic iSystem




CAUTION

- ▶ The antifreeze protection does not function if the boiler is switched off.
- ▶ The integrated protection system only protects the boiler, not the installation. To protect the installation, set the appliance to **HOLIDAYS** mode.

The **HOLIDAYS** mode protects:

- ▶ The installation if the outside temperature is lower than 3°C (factory setting).
- ▶ The room temperature if a remote control is connected and the room temperature is lower than 6 °C (factory setting).
- ▶ The domestic hot water tank if the tank temperature is lower than 4 °C (the water is reheated to 10 °C).

To configure the holidays mode:  See the manual for the control panel.

6.2.2. IniControl

1. Set the temperature control low, for example at 10°C.

If there is no demand for heat, the boiler will only switch on in order to prevent frost damage.



CAUTION

The integrated protection system only protects the boiler, not the installation.

7 Checking and maintenance

7.1 General

The cast aluminium/silicon heat exchanger forms the heart of the boiler. When combined with the special geometric shape, the flue gas pollution remains limited. At the top of the heat exchanger, the space between the pins of the heated surface on the flue gas side is slightly larger than further down. This ensures quick distribution of the hot flue gases over the heat exchanger which avoids an excessive load at the top. Due to the boiler's modulating operation, condensation occurs in different locations in the heat exchanger. This ensures that most of the oxidation residues produced are dissolved and rinsed away. The self-cleaning operation therefore functions optimally.

The boilers will undergo an inspection at least once a year or every 3000 hours of operation.



Adjust the frequency of inspection and service to the conditions of use. This applies especially to boilers in constant use (for specific processes).

7.2 Standard checks



For work on the boiler **C 630 ECO**: The features and instructions described are for each boiler module.



CAUTION

During inspection and maintenance operations, always replace all gaskets on the parts removed.



When it is observed subsequent to inspection or maintenance work that a component in the boiler needs to be replaced, use only original spare parts or recommended spare parts and equipment. A service set containing all necessary components is available for standard maintenance.

We recommend carrying out the standard checks in the following order:

1. Checking the hydraulic pressure.
2. Checking the ionization current.
3. Check the water quality.
4. Checking the air supply connections and flue gas discharge connections.
5. Checking the gas filter for pollution.
6. Checking combustion.
7. Check the air supply hose.
8. Check the dirt trap.
9. Check the air box.

- 10. Check the air pressure differential switch **PS**.
- 11. If installed: Check the gas leakage control **VPS**.
- 12. If installed: Check the minimum gas pressure switch **Gps**.

Preparation

First heat the boiler on high for about 5 minutes (return temperature 65°C) to dry the heat exchanger on the flue gas side.



WARNING

Always wear safety goggles during cleaning work (using compressed air).

7.2.1. Checking the hydraulic pressure

The hydraulic pressure must reach a minimum of 0,8 bar.

If the hydraulic pressure is lower than 0.8 bar:

- ▶ DIEMATIC iSystem control panel: The symbol **bar** flashes (Only with the hydraulic pressure sensor connected = Accessory).
- ▶ IniControl control panel: The pressure value is displayed on the screen (Only with the hydraulic pressure sensor connected = Accessory).



If the water pressure is lower than 0,8 bar, more water should be added.

7.2.2. Checking the ionization current

Check the ionization current at full load and low load. The value is stable after 1 minute. If the value lies below 3 µA, replace the ignition electrode.

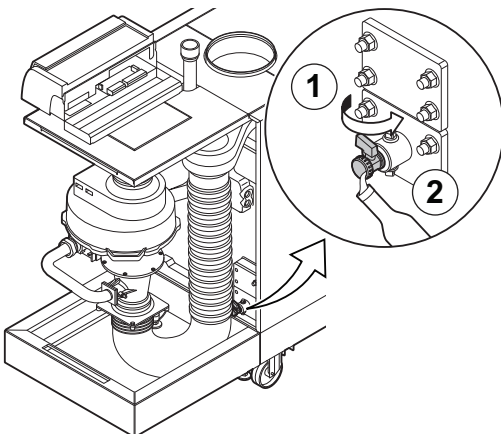


See the manual for the control panel.

7.2.3. Check the water quality

1. Fill a clean bottle with water from the installation/boiler via the filling and drain cock.
2. Check the quality of this water sample or have it checked.

For more information, refer to our publication water quality rules. This manual forms a part of the documentation supplied with the boiler. The rules in the aforementioned document must be respected.



T004854-A

7.2.4. Checking the air supply connections and flue gas discharge connections

- Check the condition and tightness of the flue gas discharge and air supply connection.

7.2.5. Checking the gas filter for pollution

The gas block on the boiler is fitted with a gas filter as standard. Check this for pollution.

1. Set the boiler to full load.
 - **DIEMATIC iSystem:** See chapter: "Setting the air/gas ratio (Full load) (Diematic iSystem)", page 53.
 - **IniControl:** See chapter: "Setting the air/gas ratio (Full load) (IniControl)", page 55.
2. Measure the inlet gas pressure via the measuring point P1 on the gas pipe (It should be at least 17 mbar).
3. Check the gas supply pressure at the pressure outlet 2 on the gas valve unit.
4. Compare the values measured with the checking values given in the table:

Inlet gas pressure minimum values 2 on the gas block	
C330 ECO	Minimum value
280	14 mbar
350	13 mbar
430	10 mbar
500	10 mbar
570	10 mbar
650	-

5. If the measured value is lower than the control value, clean or replace the gas filter.

7.2.6. Checking combustion

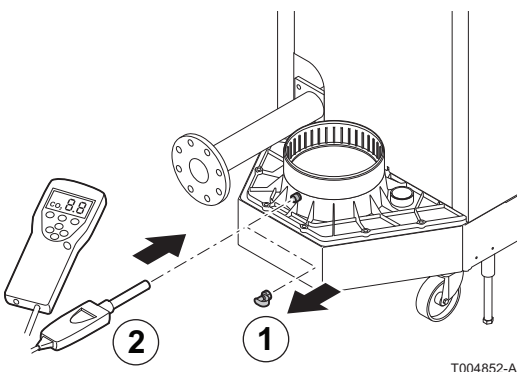
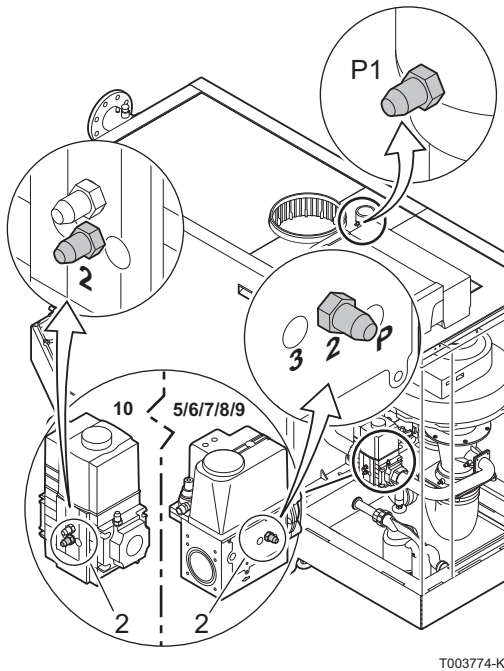
The check on combustion is done by measuring the percentage of O_2/CO_2 in the flue gas discharge flue.



1. Unscrew the plug of the flue gas measurement point.
2. Insert the measuring sensor of the flue gas analyser in the opening of the flue gas measuring point.





CAUTION

Ensure that the opening around the sensor is completely sealed when taking measurements.

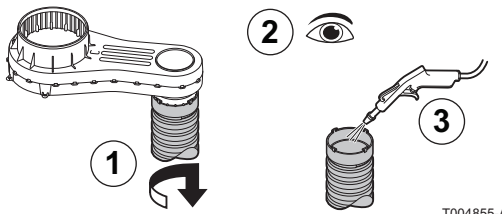


3. Set the boiler to full load.
 - **DIEMATIC iSystem:**  See chapter: "Setting the air/gas ratio (Full load) (Diematic iSystem)", page 53.
 - **IniControl:**  See chapter: "Setting the air/gas ratio (Full load) (IniControl)", page 55

The boiler is now operating at full load. Measure the percentage of CO₂ and compare this value with the checking values given.
4. Set the boiler to part load.
 - **DIEMATIC iSystem:**  See chapter: "Setting the air/gas ratio (Part load) (Diematic iSystem)", page 54.
 - **IniControl:**  See chapter: "Setting the air/gas ratio (Part load) (IniControl)", page 56

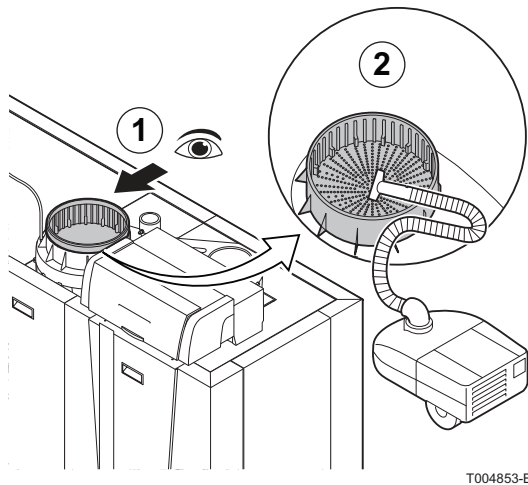
The boiler is now operating on part load. Measure the percentage of CO₂ and compare this value with the checking values given.
5. Remove the measuring sensor of the flue gas analyser from the opening of the flue gas measuring point.
6. Put the flue gas sampling plug back in place.

7.2.7. Check the air supply hose



1. Disconnect the pipe on the air box side by loosening the bayonet fitting.
2. Check the hose for damage and pollution.
3. Remove the pollution from the hose with a cloth or soft brush.
4. Replace the hose if it is faulty and/or leaking.

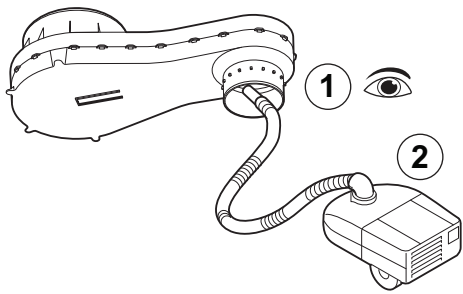
7.2.8. Check the dirt trap



- ▶ With room sealed operation, disconnect the air supply pipe above the boiler to access the dirt trap.
- ▶ In room ventilated operation with an air supply filter, remove the filter to access the dirt trap.

1. Check the dirt trap on the air supply side for pollution.
2. First remove coarse pollution and clean the trap with a vacuum cleaner or a cloth.

7.2.9. Check the air box



T004856-B

1. Check the air box for pollution.
2. Clean the dirty air box using a vacuum cleaner. Do this from the connection opening for the air supply hose.

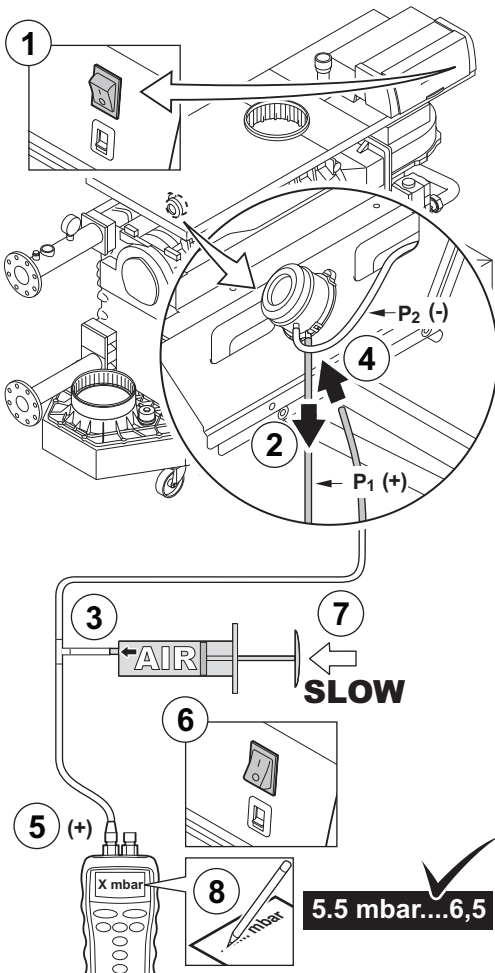


If the air box is dirty, the following components must also be dismantled and cleaned with compressed air:

- ▶ Non-return valve.
- ▶ Venturi.
- ▶ Fan.

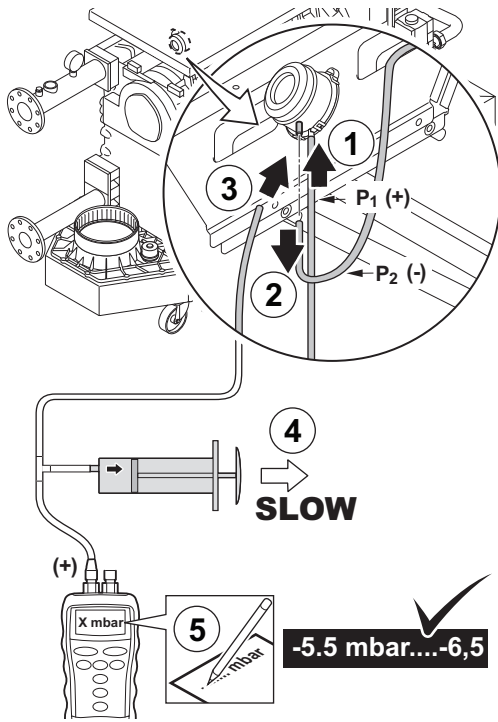
7.2.10. Check the air pressure differential switch PS

Check the air pressure differential switch +



T005045-C

1. Switch the boiler off.
2. Disconnect the silicon hose on the + side (P1) of the air pressure differential switch.
3. Take a large plastic syringe and connect a T piece with a hose connected to the mouth.
4. Connect the + side of the air pressure differential switch to one end of the T piece with a hose.
5. On the other end of the T piece, connect the + side of a pressure gauge.
6. Switch on the boiler.
7. Push the syringe in very slowly until the boiler goes into failure mode; Code **L12 / E12**.
8. Make a note of the pressure indicated by the pressure gauge at that point. A switch pressure of between 5,5 mbar and 6,5 mbar is fine. A lower or higher switch pressure indicates a problem with the air pressure differential switch.



T005046-A

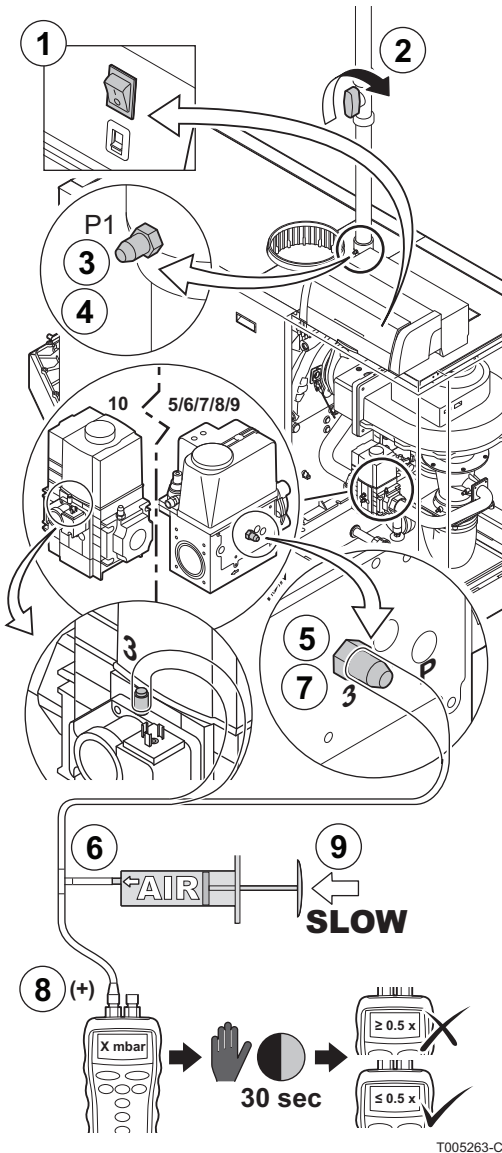
Check the air pressure differential switch -

1. Fasten the silicon hose on the + side (P1) of the air pressure differential switch.
2. Disconnect the silicon hose on the - side (P2) of the air pressure differential switch.
3. Connect the - side of the air pressure differential switch to one end of the T piece with a hose.
4. Pull out the syringe until the boiler goes into failure mode Code **L12 / E12**.
5. Make a note of the pressure indicated by the pressure gauge at that point. A switch pressure of between - 5,5 mbar and - 6,5 mbar is fine. A lower or higher switch pressure indicates a problem with the air pressure differential switch.
6. Remove any pollution from the connection points of hoses on the air pressure differential switch.
7. Check the condition and tightness of the hoses of the air pressure differential switch. Replace the hoses if necessary.

7.2.11. Check the gas leakage control VPS

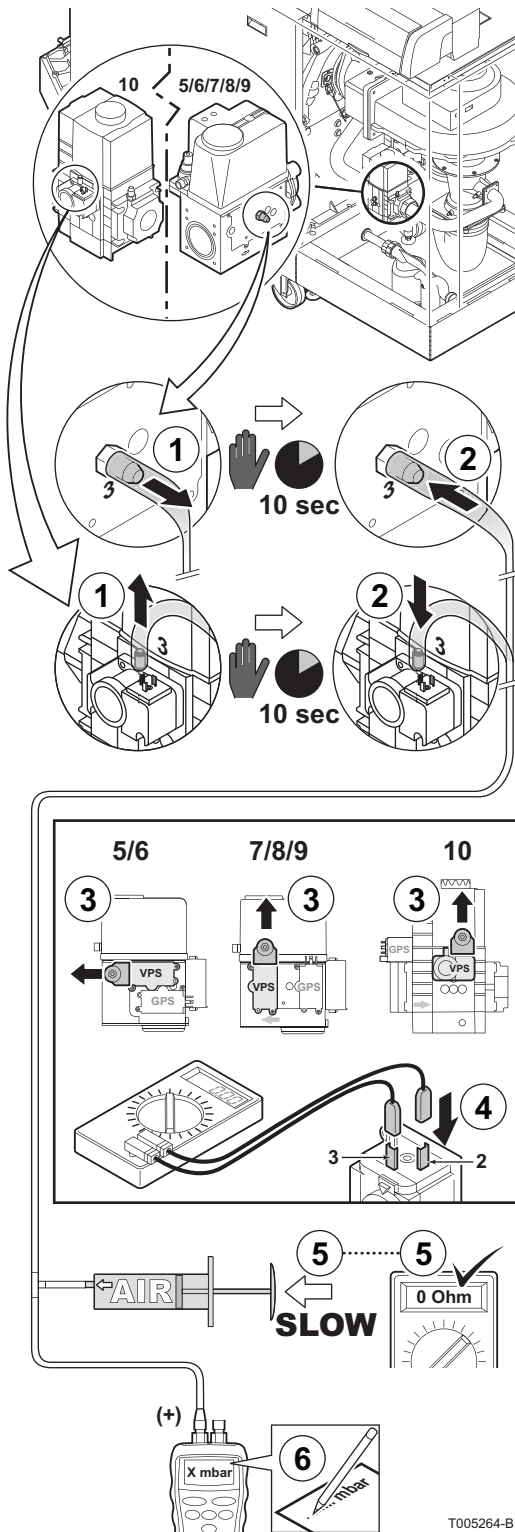
A - Leak test

1. Switch the boiler off.
2. Close the boiler gas cock.
3. Remove the pressure from the gas pipe by unscrewing the screw in measuring point P1.
4. As soon as the gas pipe is pressure-free, retighten the screw.
5. Open the screw in measuring point 3 of the gas block (5/6/7/8/9 sections) or the measurement point 3 of the VPS (10 sections).
6. Take a large plastic syringe and connect a T piece with a hose connected to the mouth.
7. Connect one end of the T piece to measuring point 3 of the gas block or the measurement point 3 of the VPS.
8. Connect the other end of the T piece to a pressure gauge.
9. Push the syringe in very slowly until the pressure gauge indicates the minimum inlet gas pressure value.
10. Check the measured pressure for about 30 seconds. If pressure decreases by more than half, this indicates a gas leak.
11. Replace the gas block or the VPS if necessary.

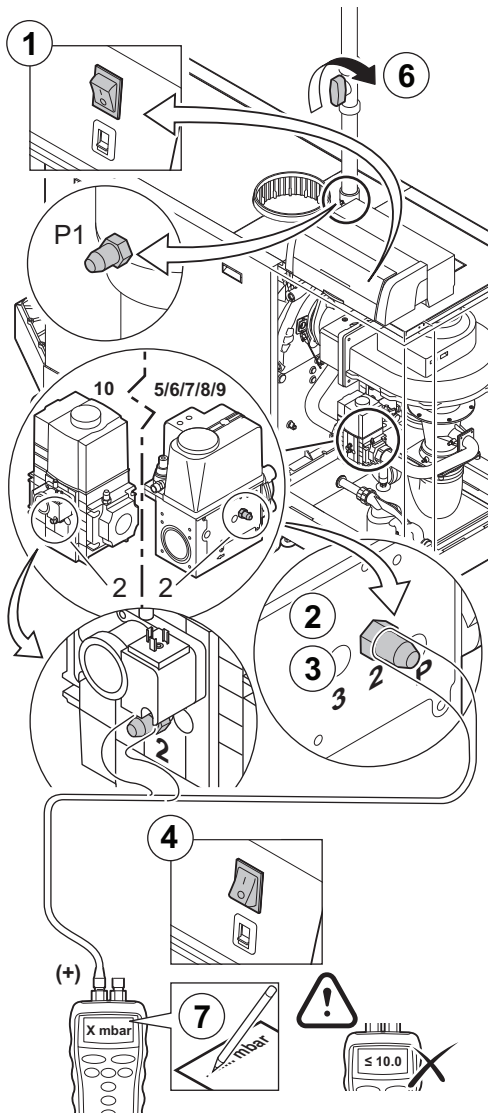


B - Check the switch value

1. Remove the pressure from the gas block; to do so remove the hose connected to measuring point 3 of the gas block (5/6/7/8/9 sections) or the measurement point 3 of the VPS (10 sections) .
2. Wait approximately 10 seconds and reconnect the disconnected hose to measuring point 3 of the gas block or the measurement point 3 of the VPS.
3. Remove the connecting plug from the VPS gas leakage control.
4. Connect an ohmmeter to terminals 2 and 3 of the VPS.
5. Push the syringe in very slowly until the ohmmeter indicates 0 Ohm.
6. Make a note of the pressure indicated by the pressure gauge at that point. If the measured pressure differs by more than 2 mbar from the VPS set-up value, set the pressure switch to the correct value or replace it.



7.2.12. Check the minimum gas pressure switch Gps



T005265-D

7.3 Specific maintenance operations



For work on the boiler **C 630 ECO**: The features and instructions described are for each boiler module.



CAUTION

During inspection and maintenance operations, always replace all gaskets on the parts removed.

If the standard inspection and maintenance operations have revealed the necessity to carry out additional maintenance work, proceed as follows, depending on the nature of the work:



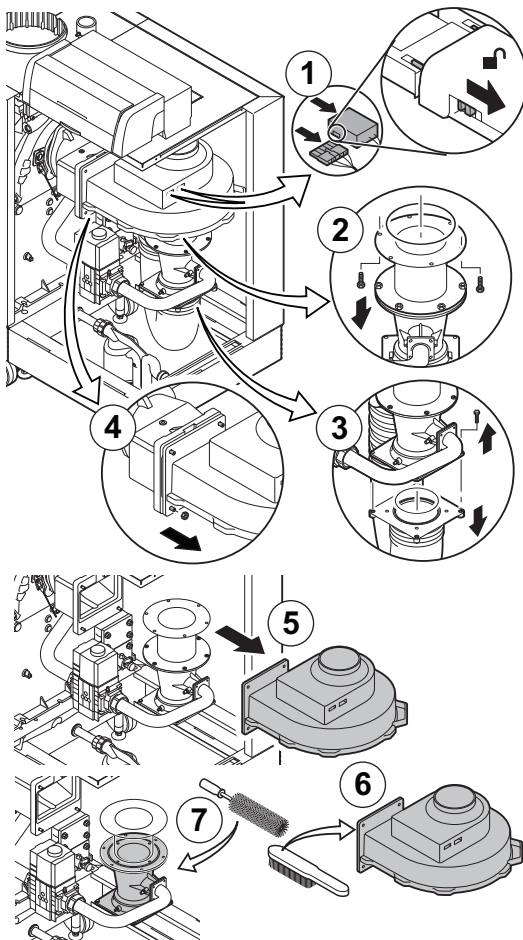
DANGER

- ▶ Disconnect the appliance's electricity supply.
- ▶ Shut off the gas supply.

We recommend carrying out the specific maintenance activities in the following order:

1. Clean the fan and the venturi.
2. Clean and inspect the non-return valve.
3. Replacing the ionization/ignition electrode.
4. Cleaning the gas filter.
5. Clean and inspect the burner.
6. Clean the burner area.
7. Cleaning the heat exchanger.
8. Cleaning the condensate collector.
9. Cleaning the siphon.
10. Assembling the boiler.
11. Put the boiler back into operation.

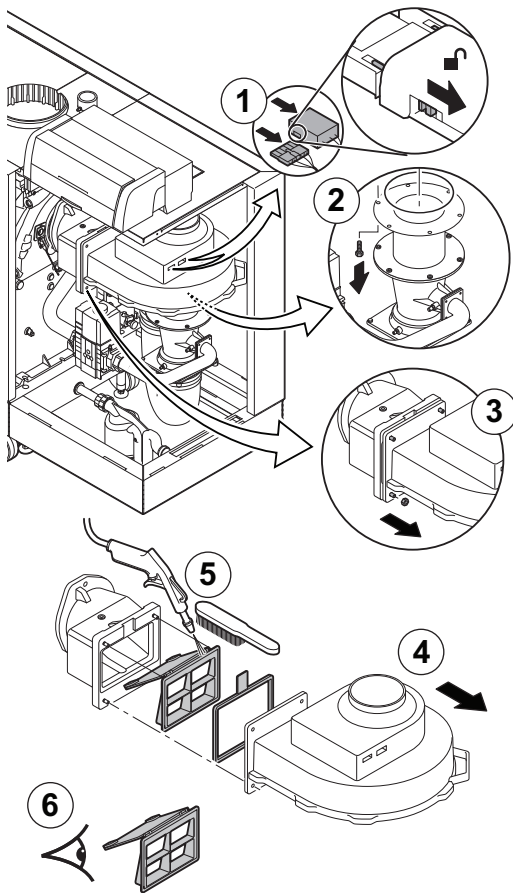
7.3.1. Clean the fan and the venturi



T003494-J

1. Remove the electrical connections from the fan. Push the safety slides on both sides of the power plug right to the back (You could use a small screwdriver for example).
2. Unscrew the bolts from the extension piece under the fan. Support the gas block, using a block of wood, for example.
3. Disconnect the air inlet hose from the venturi.
4. Unscrew the nuts on the fan output.
5. Disconnect the fan from the adapter.
6. Clean the fan with a soft plastic brush.
7. Clean the venturi with a soft plastic brush.

7.3.2. Clean and inspect the non-return valve



T003493-H

The non return valve must be replaced if it is faulty.

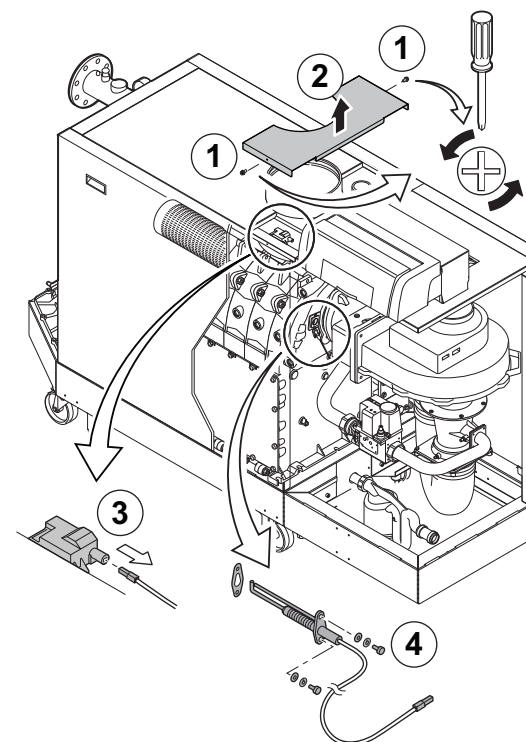
1. Remove the electrical connections from the fan. Push the safety slides on both sides of the power plug right to the back (You could use a small screwdriver for example). Support the gas block, using a block of wood, for example.
2. Unscrew the bolts from the extension piece under the fan.
3. Unscrew the nuts on the fan output.
4. Disconnect the fan from the adapter.
5. Clean the non-return valve with a soft plastic brush or with compressed air.
6. Inspect the non-return valve and replace it if faulty or seriously damaged.
7. To re-assemble, perform the above actions in reverse order.



CAUTION

Reconnect the fan's electrical connection.

7.3.3. Replacing the ionization/ignition electrode



T003490-H

Replace the ionization/ignition electrode in the following cases:

- ▶ Ionization current $< 3 \mu\text{A}$.
- ▶ The electrode is damaged or worn (Visual inspection).
- ▶ The specific maintenance activities are carried out.

If replacement is necessary, proceed as follows:

1. Unscrew the 2 screws on the middle top casing.
2. Remove the middle top casing.
3. Remove the cable from the ionization/ignition electrode on the ignition transformer.
4. Unscrew the 2 screws and remove the ionization/ignition electrode.



CAUTION

Do not fit the new ionisation/ignition electrode until the burner has been cleaned and refitted. This will prevent damage occurring.

7.3.4. Cleaning the gas filter

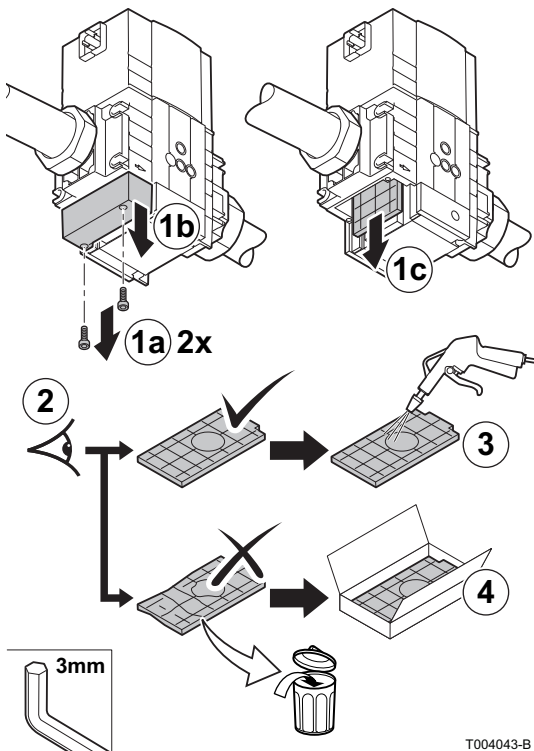
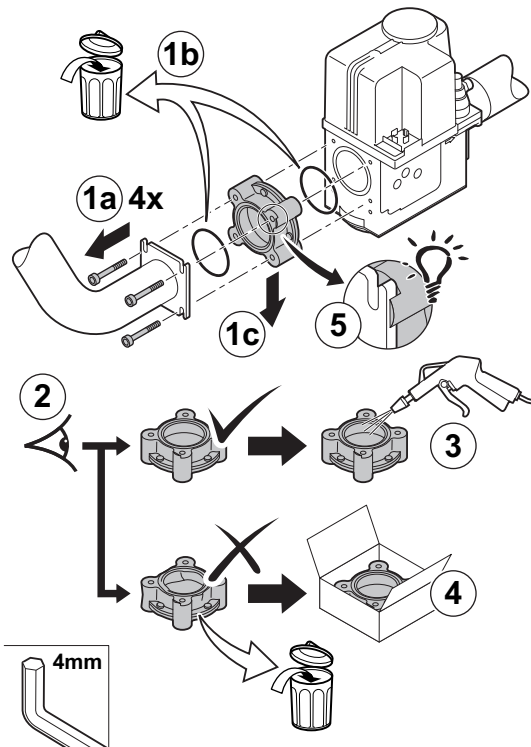


The 5 to 9 section boilers are supplied with a different gas block from the 10 section boiler.

1. Remove the gas filter.
2. Inspection.
3. Clean the gas filter without the use of liquids (shake it or carefully blow it clean).
4. Replace the gas filter if necessary.
5. To re-assemble, perform the above actions in reverse order.

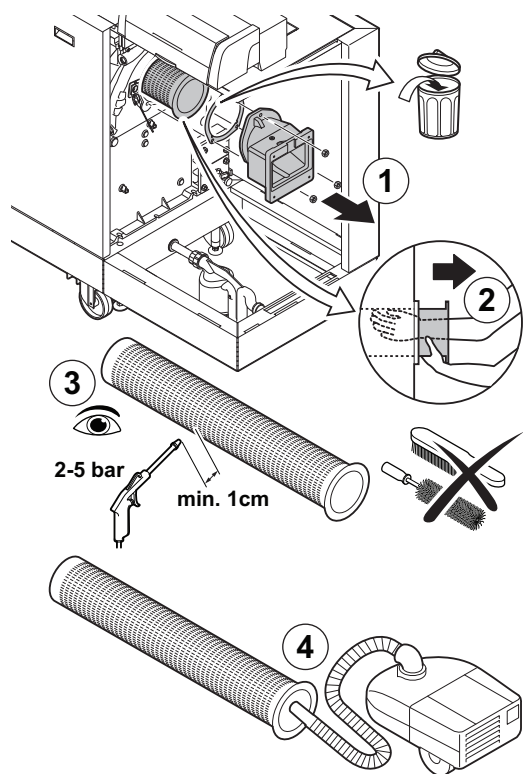


In this gas block, the gas filter holder has a positioning ridge. Position this at the top left during assembly.



T004043-B

7.3.5. Cleaning the burner



T003488-F

i Never clean the burner's surface with a brush or similar item.

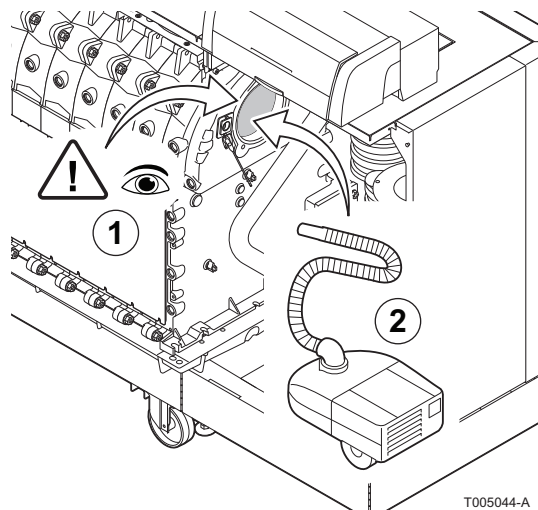
4. Carefully Hoover the dirt from the inside of the burner.
5. Replace the burner if faulty or seriously damaged.



CAUTION

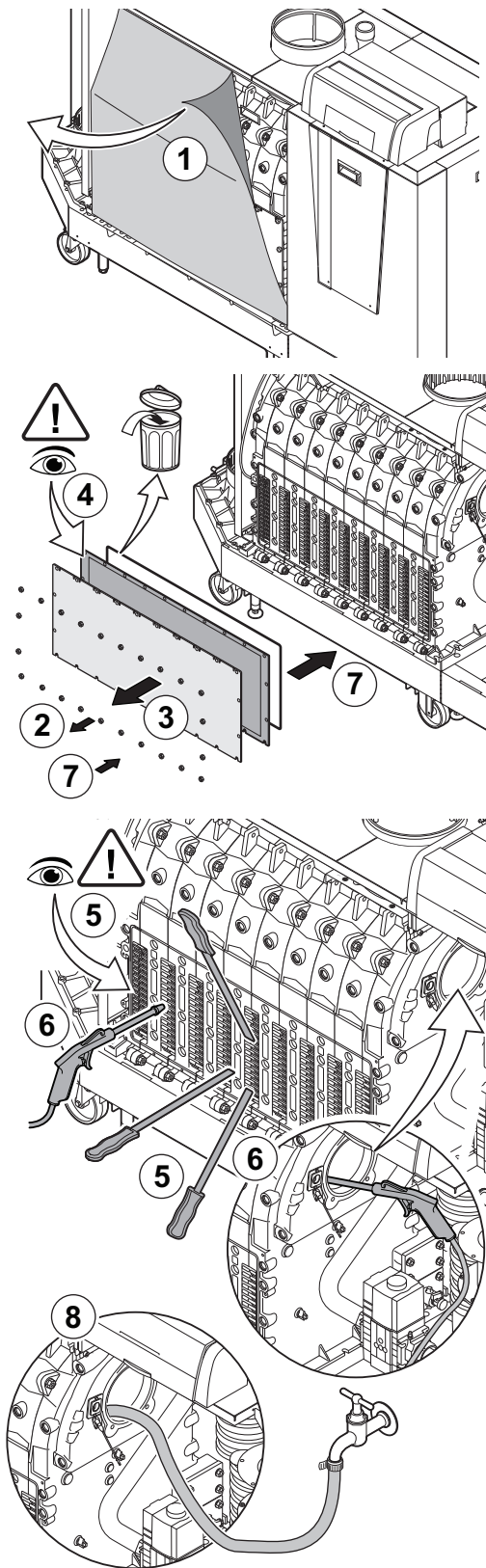
Do not refit the burner until the burner area, heat exchanger, condensate collector and siphon have been cleaned.

7.3.6. Clean the burner area



T005044-A

7.3.7. Checking the heat exchanger



T003983-C

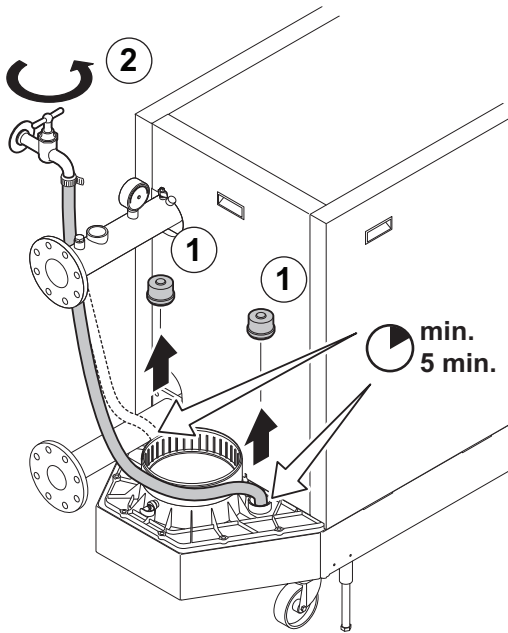
1. Remove the insulation set from the heat exchanger (locally).
2. Unscrew the nuts from the inspection hatch on the heat exchanger.
3. Take the inspection hatch off the heat exchanger and remove the insulation cloth. The insulation cloth may stick to the heat exchanger. Avoid damaging or tearing the insulation cloth. Remove the silicon insulation cord.
4. Inspect the insulation cloth and replace if necessary.
5. Clean the areas between the pins of the heat exchanger using the special cleaning tool or cleaning knife (Accessory). Always work from the bottom to the top. Move the cleaning knife between the pins horizontally and diagonally.



A range of cleaning knives is available for the various boilers. Always use the cleaning knife specially designed for this boiler. This knife has a length of 560 mm.

6. Use compressed air to blow the cleaned parts through in turn. Do this from the service side and from the burner area.
7. Fit the inspection hatch with the silicon cord and the insulation cloth.
8. Use clean water to thoroughly rinse the heat exchanger from the burner area.

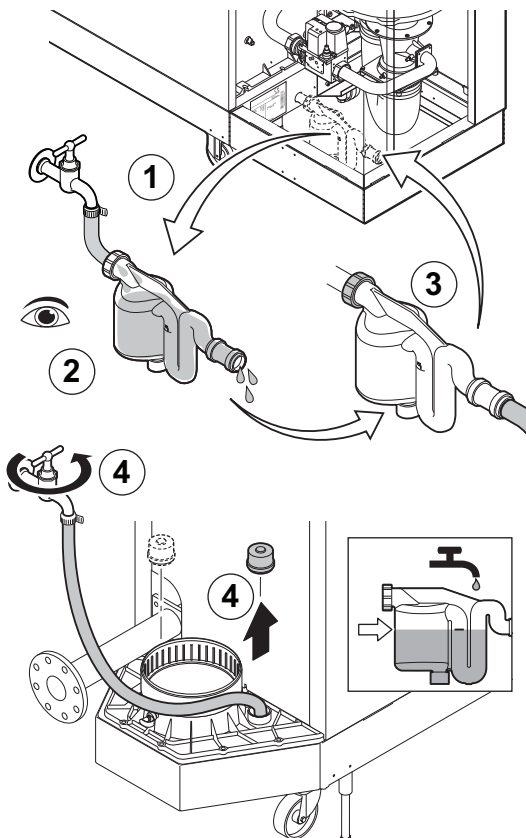
7.3.8. Cleaning the condensate collector



T004851-A

1. Remove both sealing caps from the condensate collector. (In front of and behind the flue gas discharge connection).
2. Thoroughly clean the condensate collector with water. Rinse each side of the condensate collector for at least 5 minutes with the largest possible water flow.
3. Refit both sealing caps on the condensate collector.

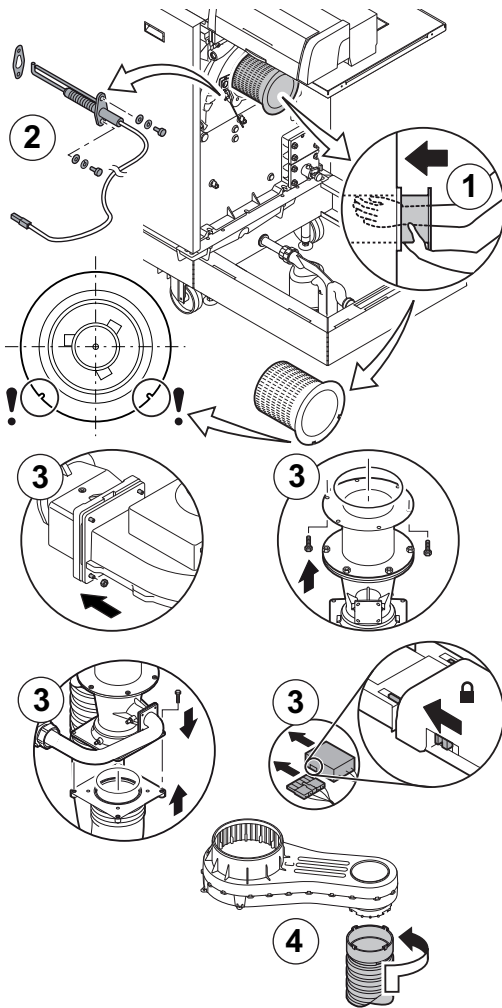
7.3.9. Cleaning the siphon



T003478-K

1. Remove the siphon.
2. Clean the siphon with water.
3. Put the siphon back in place.
4. Fill the siphon with water via the condensate tank (Up the level marker).

7.3.10. Assembling the boiler



T004857-C

1. Fit the burner.



The burner has 2 holes at the front. Position it on the *1 support pins at the burner opening.

2. Fit the new ionisation/ignition electrode.
3. Fit the venturi and the fan.



CAUTION

Reconnect the fan's electrical connection.

4. Fit the air supply hose.

7.3.11. Put the boiler back into operation

1. Open the main gas supply.
2. Check the gas circuit.
3. Checking the hydraulic pressure.
4. Check that there are no leaks on the hydraulic connections.
5. Checking the flue gas discharge and the air supply.
6. Check the electricity supply.
7. Check the electrical connections.
8. Turn on the boiler using the on/off switch.
9. Check the gas supply pressure at the pressure outlet P2 on the gas valve unit.
10. Check the ionization current.
11. Check the combustion.
12. Check the gas connections between the gas block and the venturi for tightness.
13. Bleed the Central Heating system.

8 Troubleshooting

8.1 Troubleshooting



For operation of the boiler **C 630** The features and instructions described are for each boiler module.

In the case of failure, the control panel displays a message and a corresponding code.



See the manual for the control panel

9 Spare parts

9.1 General

When it is observed subsequent to inspection or maintenance work that a component in the boiler needs to be replaced, use only original spare parts or recommended spare parts and equipment.



To order a spare part, give the reference number shown on the list.

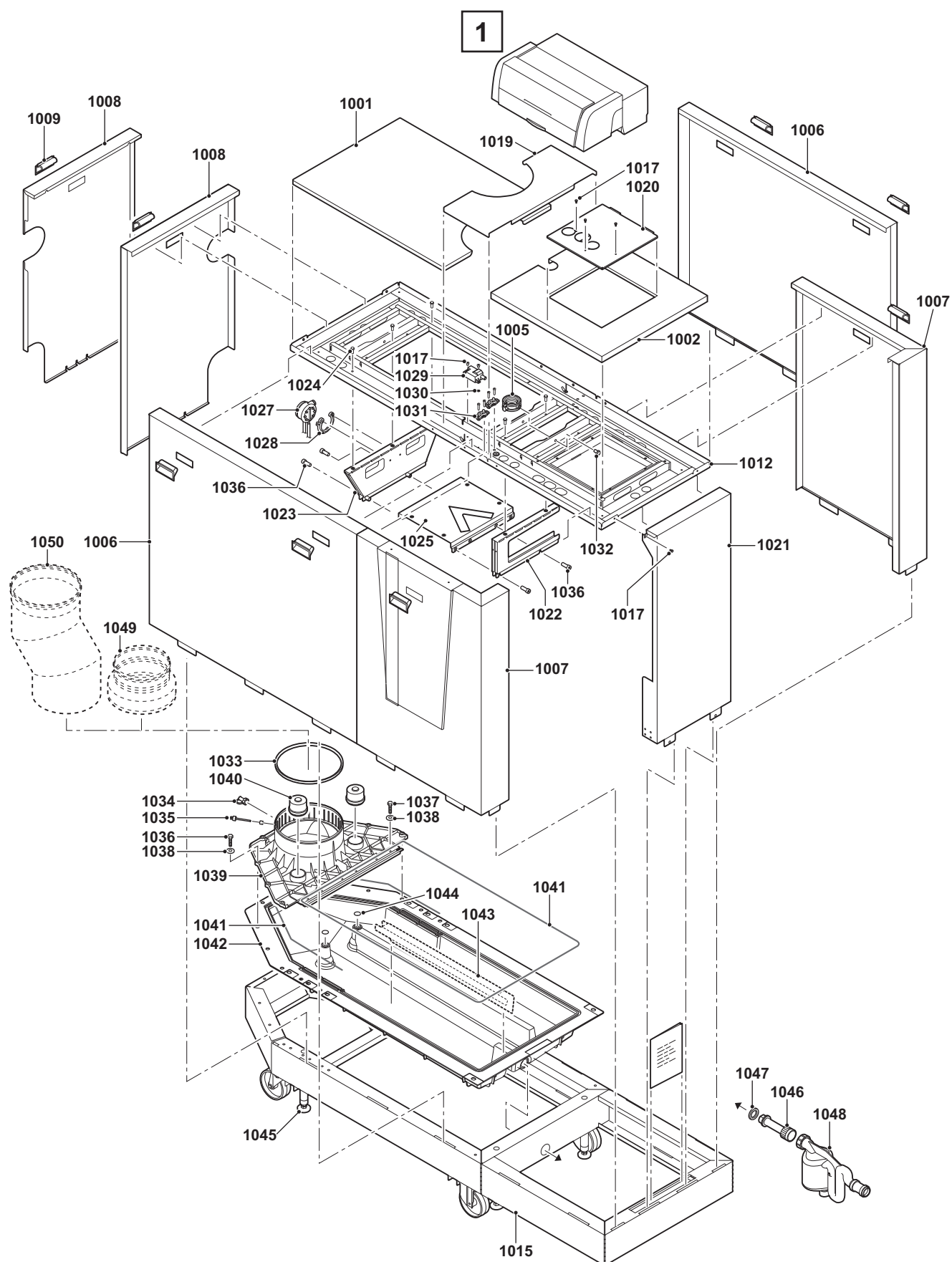
9.2 Spare parts

C 330 ECO
C 630 ECO



For **C 630 ECO** boilers: The parts described and pictured are for each boiler module.

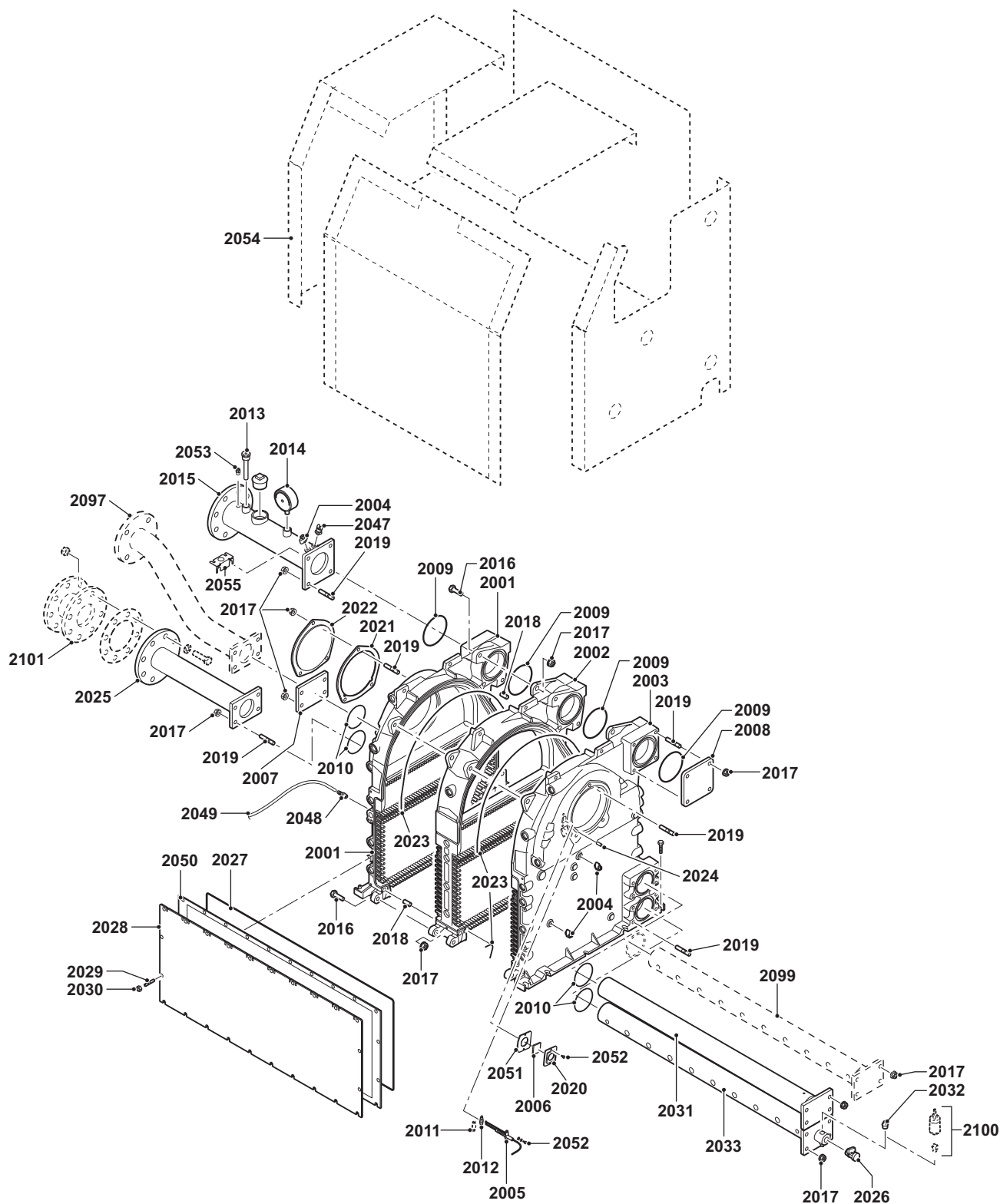
9.2.1. Casing



T800025-F

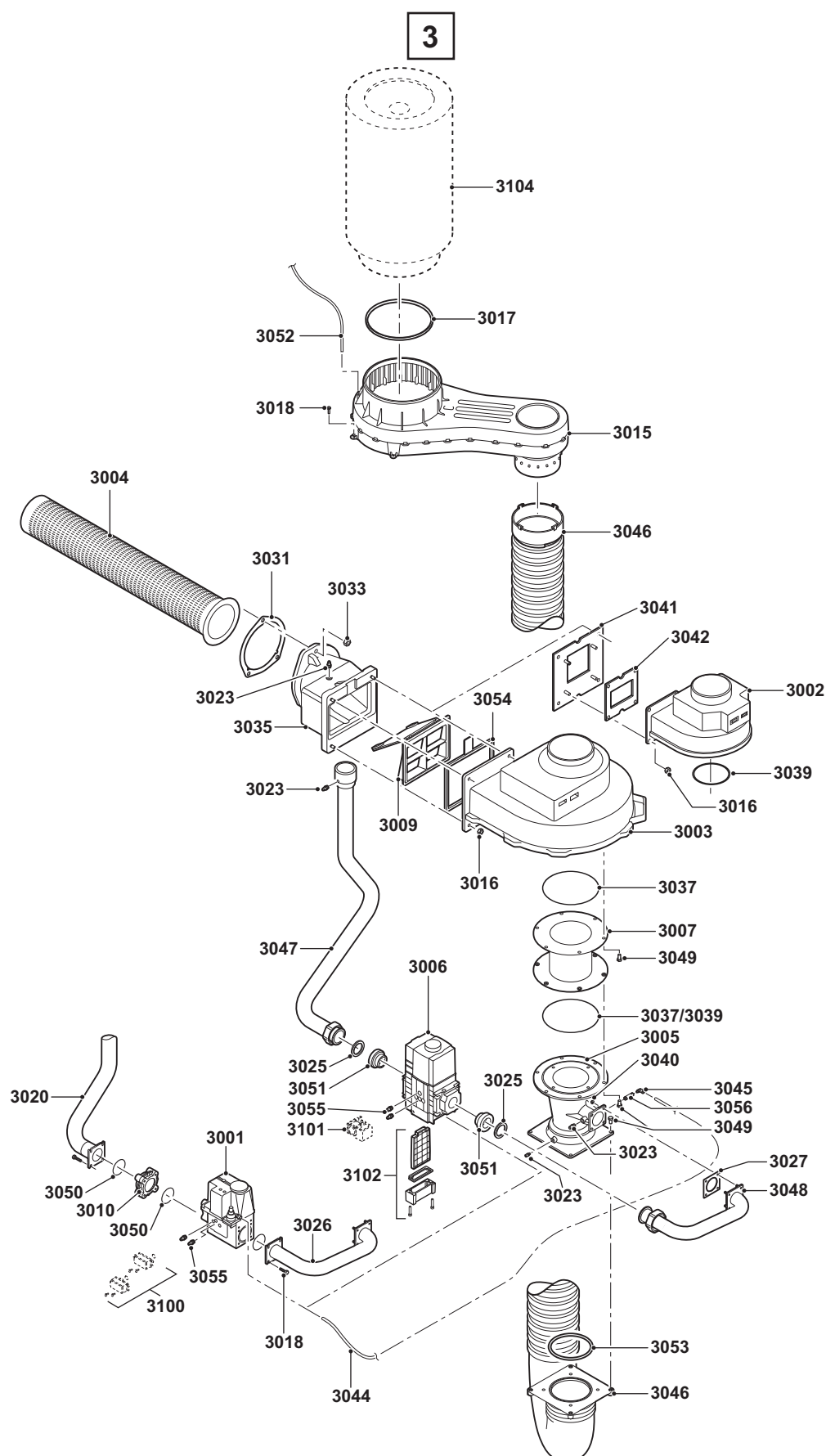
9.2.2. Heat exchanger and burner

2



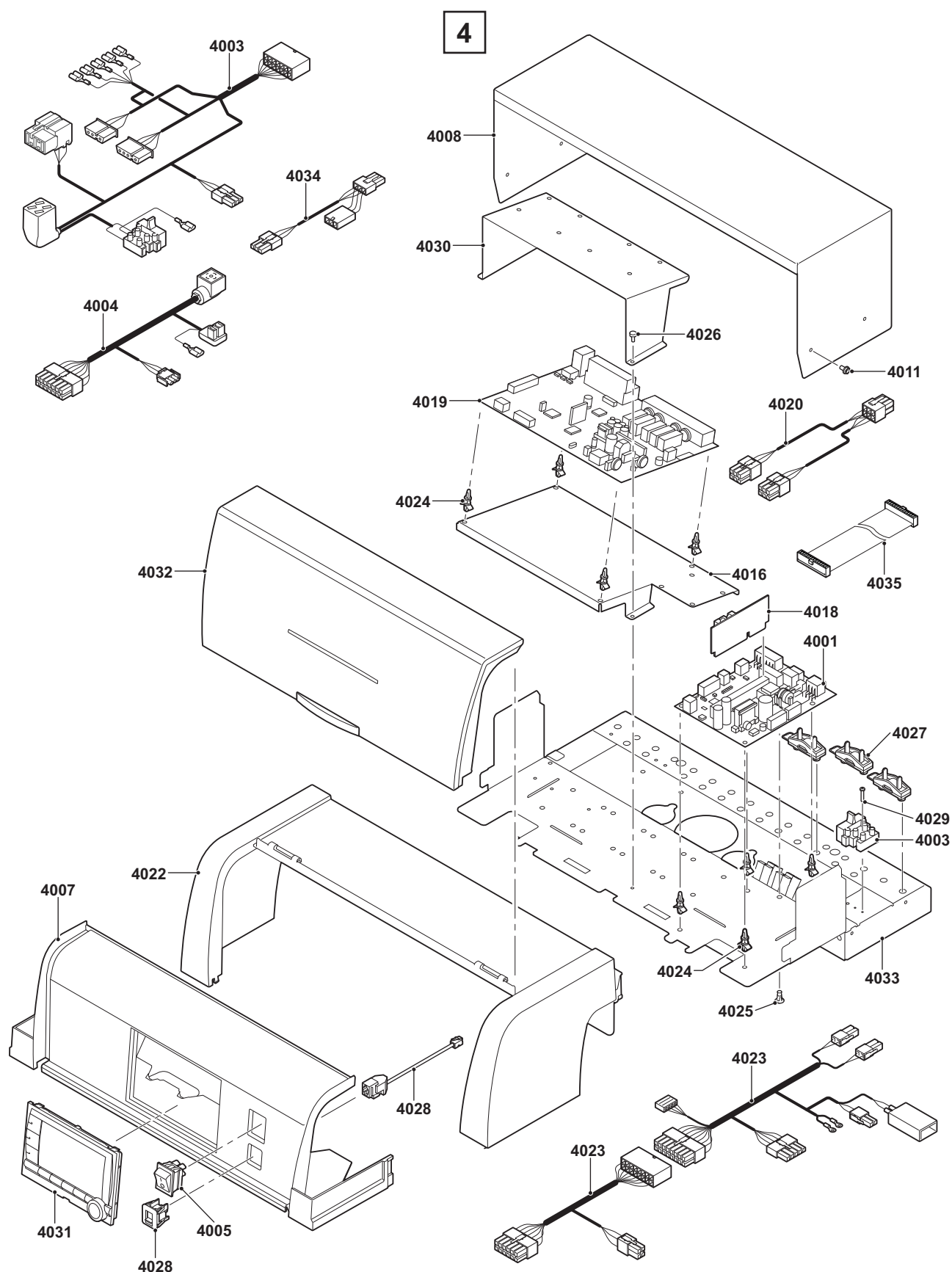
T800026-D

9.2.3. Fan



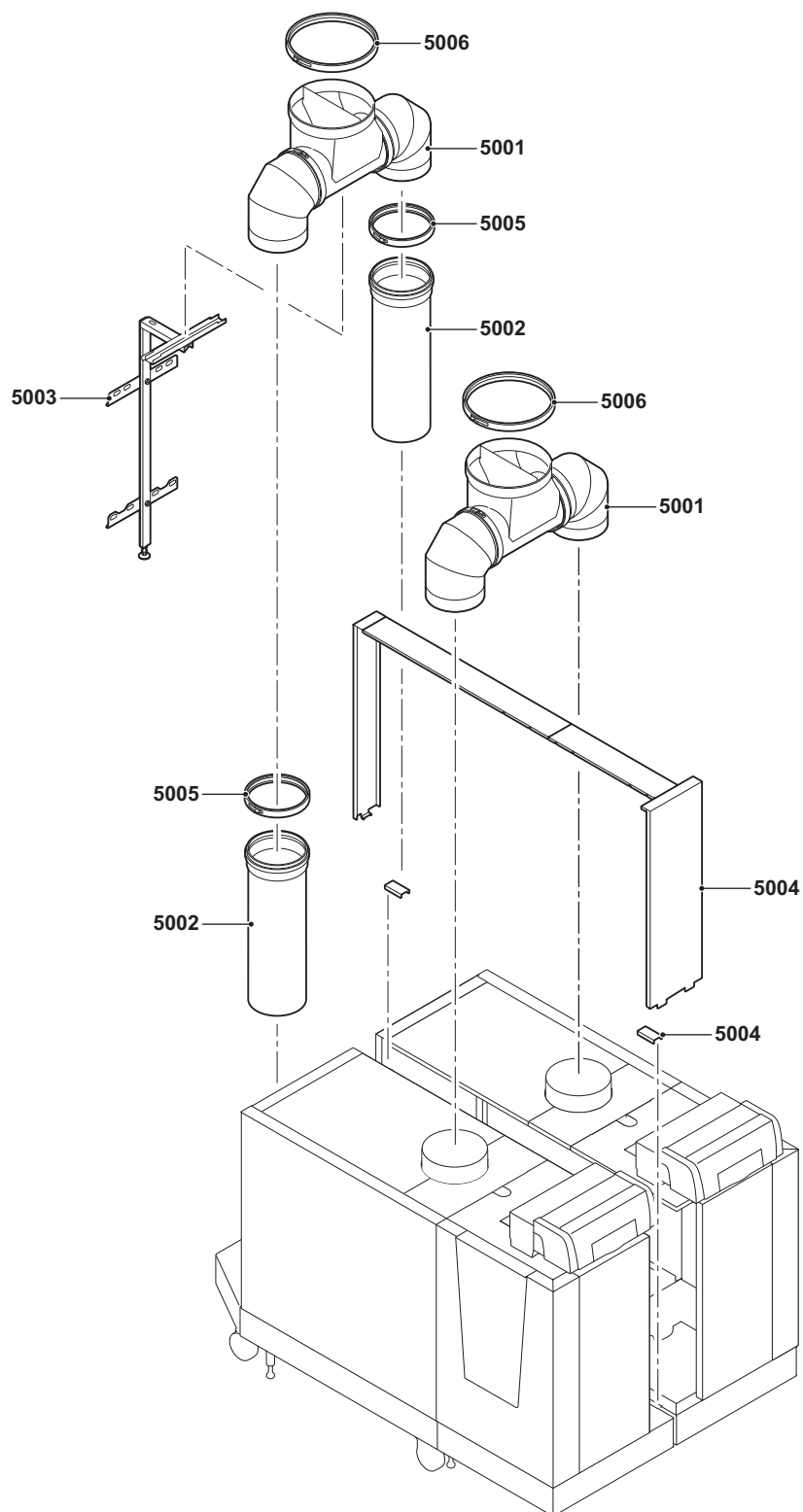
T800027-H

9.2.4. Control panel



T800028-F

9.2.5. Spare parts C630 ECO



T800223-B

9.2.6. Spare parts list

Markers	Code no.	Description	Number	C 330 ECO					
				280	350	430	500	570	650
Boiler casing									
1001	S103108	Top casing 5 / 6 / 7 sections	-	x	x	x			
1001	S103109	Top casing 8 / 9 / 10 sections	-				x	x	x
1002	S103111	Top casing front (Big)	-	x	x	x	x	x	x
1005	S103242	Bracket 44-49 M8	2	x	x	x	x	x	x
1006	S103104	Side casing 5 / 6 / 7 sections (Corner right side)	-	x	x	x			
1006	S103103	Side casing 8 / 9 / 10 sections (Corner left side)	-				x	x	x
1006	S103101	Side casing 8 / 9 / 10 sections (Corner right side)	-				x	x	x
1006	S103102	Side casing 5 / 6 / 7 sections (Corner left side)	-	x	x	x			
1007	S103097	Side casing right version with logo	-	x	x	x	x	x	x
1007	S103096	Side casing left version with logo	-	x	x	x	x	x	x
1007	S103099	Side casing left	-	x	x	x	x	x	x
1007	S103098	Side casing right	-	x	x	x	x	x	x
1008	S103107	Back casing left	-	x	x	x	x	x	x
1008	S103106	Back casing right	-	x	x	x	x	x	x
1009	S100419	Casing panel handle	-	x	x	x	x	x	x
1012	S103152	Frame top 5 / 6 / 7 sections	-	x	x	x			
1012	S103153	Frame top 8 / 9 / 10 sections	-				x	x	x
1015	S103144	Frame 5 / 6 / 7 sections	-	x	x	x			
1015	S103145	Frame 8 / 9 / 10 sections	-				x	x	x
1017	S14254	Sheet-metal screw 4,2x9,5	20	x	x	x	x	x	x
1019	S103110	Top casing middle	-	x	x	x	x	x	x
1020	S103112	Top casing front (Sml)	-	x	x	x	x	x	x
1021	S103105	Front cover control panel side	-	x	x	x	x	x	x
1022	S103154	Bracket support frame front	-	x	x	x	x	x	x
1023	S103155	Bracket support frame back	-	x	x	x	x	x	x
1024	S100570	Bolt M5x20	10	x	x	x	x	x	x
1025	S103156	Bracket air box	1	x	x	x	x	x	x
1027	S103246	Pressure differential switch	1	x	x	x	x	x	x
1028	S103247	Clip pressure differential switch	10	x	x	x	x	x	x
1029	S103251	Ignition transformer	1	x	x	x	x	x	x
1030	S21473	Serrated washer A 4,3	10	x	x	x	x	x	x
1031	S103315	Draught diverter	10	x	x	x	x	x	x
1032	S103248	Bolt M8x10	5	x	x	x	x	x	x
1033	S103140	Sheet gasket Ø 250 mm	2	x	x	x	x	x	x
1034	S103244	Protective plug for the combustion gas evacuation measurement point	2	x	x	x	x	x	x
1035	S103023	Flue gas thermostat (Accessory)	1	x	x	x	x	x	x
1036	S103023	Bolt M8x35	10	x	x	x	x	x	x
1037	S103260	Bolt M8x20	10	x	x	x	x	x	x
1038	S103249	Washer Ø 8,4mm	10	x	x	x	x	x	x
1039	S103137	Flue gas discharge adapter 5 + 8 sections	1	x			x		
1039	S103138	Flue gas discharge adapter 6 + 9 sections	1		x			x	
1039	S103139	Flue gas discharge adapter 7 + 10 sections	1			x			x
1040	S103141	Leakproof plug	2	x	x	x	x	x	x
1041	S101372	Sealing silicon red Ø 10 mm (5 meter)	1	x	x	x	x	x	x

Markers	Code no.	Description	Number	C 330 ECO					
				280	350	430	500	570	650
1042	S103135	Condensate collector 5 / 6 / 7 sections	1	x	x	x			
1042	S103136	Condensate collector 8 / 9 / 10 sections	1				x	x	x
1043	S103302	Condensate collector strip 6 sections	1	x	x	x	x	x	x
1044	S62713	O-Ring Ø 20x2,5	10	x	x	x	x	x	x
1045	S103243	Adjusting foot	2	x	x	x	x	x	x
1046	S103143	Connection syphon	1	x	x	x	x	x	x
1047	S103261	Gasket ring 45x34x3	10	x	x	x	x	x	x
1048	S103142	Complete siphon	1	x	x	x	x	x	x
1049	S103179	Combustion air/flue gas adapter 250 - 200 mm (Accessory)	1	x	x	x	x	x	x
1050	S103142	Combustion air/flue gas adapter C 310 ECO - C 330 ECO (Accessory)	1	x	x	x	x	x	x
Heat exchanger and burner									
2001	S103166	Section front	1	x	x	x	x	x	x
2002	S103168	Intermediate section	1	x	x	x	x	x	x
2003	S103167	Section end	1	x	x	x	x	x	x
2004	S101003	NTC temperature sensor	2	x	x	x	x	x	x
2005	S103262	Ignition/ionization electrode	1	x	x	x	x	x	x
2006	S45004	Glass inspection 32x32x3, with gasket	1	x	x	x	x	x	x
2007	S100430	Flange blank return	1	x	x	x	x	x	x
2008	S100431	Flange blank flow	1	x	x	x	x	x	x
2009	S103263	O-Ring Ø 107	4	x	x	x	x	x	x
2010	S103264	O-Ring Ø 82	8	x	x	x	x	x	x
2011	S103265	Closing plate	1	x	x	x	x	x	x
2012	S62105	Sealing plate for the ignition electrode	10	x	x	x	x	x	x
2013	S42649	½" sensor tube	1	x	x	x	x	x	x
2014	S103291	0-10 bar manometer	1	x	x	x	x	x	x
2015	S103030	Flow pipe 5 + 8 sections	1	x			x		
2015	S103031	Flow pipe 7 + 10 sections	1			x			x
2015	S103032	Flow pipe 6 + 9 sections	1		x			x	
2016	183	Bolt M12x40	1	x	x	x	x	x	x
2017	S103039	Nut flange M12	1	x	x	x	x	x	x
2018	62346	Dowel Ø 12x20	1	x	x	x	x	x	x
2019	57727	Stud M12	1	x	x	x	x	x	x
2020	S54822	Mounting frame for inspection glass)	1	x	x	x	x	x	x
2021	S103266	Gasket for cover plate burner	2	x	x	x	x	x	x
2022	S57785	Cover plate for burner hole	1	x	x	x	x	x	x
2023	S100643	Silicone sealant RTV 106	1	x	x	x	x	x	x
2024	S103267	Dowel burner	10	x	x	x	x	x	x
2025	S103033	Return pipe 5 + 8 sections	1	x			x		
2025	S103034	Return pipe 6 + 9 sections	1		x			x	
2025	S103035	Return pipe 7 + 10 sections	1			x			x
2026	S103304	Filling and drain cock 1"	1	x	x	x	x	x	x
2027	S101368	Sealing silicon red Ø 7 mm (5 meter)	1	x	x	x	x	x	x
2028	S57720	Access plate heat exchanger 5 sections	1	x					
2028	S57721	Access plate heat exchanger 6 sections	1		x				
2028	S57722	Access plate heat exchanger 7 sections	1			x			
2028	S57723	Access plate heat exchanger 8 sections	1				x		
2028	S57724	Access plate heat exchanger 9 sections	1					x	
2028	S103148	Access plate heat exchanger 10 sections	1						x
2029	S100549	Stud M8	25	x	x	x	x	x	x

Markers	Code no.	Description	Number	C 330 ECO					
				280	350	430	500	570	650
2030	S100556	Nut M8	25	x	x	x	x	x	x
2031	S57738	Second return water pipe blind 5 sections	1	x					
2031	S57739	Second return water pipe blind 6 sections	1		x				
2031	S57740	Second return water pipe blind 7 sections	1			x			
2031	S57741	Second return water pipe blind 8 sections	1				x		
2031	S57742	Second return water pipe blind 9 sections	1					x	
2031	S103036	Second return water pipe blind 10 sections	1						x
2032	S100532	3/8" plug	1	x	x	x	x	x	x
2033	S103269	Return water distribution pipe 5 sections	1	x					
2033	S103270	Return water distribution pipe 6 sections	1		x				
2033	S103271	Return water distribution pipe 7 sections	1			x			
2033	S103272	Return water distribution pipe 8 sections	1				x		
2033	S103273	Return water distribution pipe 9 sections	1					x	
2033	S103038	Return water distribution pipe 10 sections	1						x
2047	S103268	HI temperature sensor	1	x	x	x	x	x	x
2048	S103188	Nipple with tube silicone 8x2	1	x	x	x	x	x	x
2049	S103274	Silicone hose 4/8, 1300 mm	1	x	x	x	x	x	x
2050	S100668	Insulation front plate heat exchanger 5 sections	1	x					
2050	S100669	Insulation front plate heat exchanger 6 sections	1		x				
2050	S100670	Insulation front plate heat exchanger 7 sections	1			x			
2050	S100671	Insulation front plate heat exchanger 8 sections	1				x		
2050	S100672	Insulation front plate heat exchanger 9 sections	1					x	
2050	S103149	Insulation front plate heat exchanger 10 sections	1						x
2051	S35458	Gasket for inspection glass	5	x	x	x	x	x	x
2052	S48950	Screw DIN 7985 M4x10	50	x	x	x	x	x	x
2053	S41601	Air vent 1/8"	1	x	x	x	x	x	x
2054	S101806	Heat exchanger insulation set, 5 sections	1	x					
2054	S101807	Heat exchanger insulation set, 6 sections	1		x				
2054	S103307	Heat exchanger insulation set, 7 sections	1			x			
2054	S103308	Heat exchanger insulation set, 8 sections	1				x		
2054	S103309	Heat exchanger insulation set, 9 sections	1					x	
2054	S103310	Heat exchanger insulation set, 10 sections	1						x
2097	S103039	Second return distribution pipe 5 + 8 sections	1	x			x		
2097	S103040	Second return distribution pipe 6 + 9 sections	1		x			x	
2097	S103041	Second return distribution pipe 7 + 10 sections	1			x			x
2099	S57743	Second return distribution water pipe 5 sections	1	x					
2099	S57744	Second return distribution water pipe 6 sections	1		x				
2099	S57745	Second return distribution water pipe 7 sections	1			x			
2099	S57746	Second return distribution water pipe 8 sections	1				x		
2099	S57747	Second return distribution water pipe 9 sections	1					x	
2099	S103037	Second return distribution water pipe 10 sections	1						x
2100	S101784	Hydraulic pressure sensor (Accessory)	1	x	x	x	x	x	x
2101	S101775	Circulating pump replacement pipe (Accessory)	1	x	x	x	x	x	x
Fan									
3001	S103275	VR425 valve gas multi block 5 sections	1	x					
3001	S103276	VR432 valve gas multi block 6 sections	1		x				
3001	S103277	VR434 valve gas multi block 7 / 8 / 9 sections	1			x	x	x	
3002	S57770	G1G170 Fan 5 / 6 sections	1	x	x				
3003	S103150	G3G250 Fan 7 / 8 / 9 / 10 sections	1			x	x	x	x
3004	S100347	Burner 5 sections	1	x					

Markers	Code no.	Description	Number	C 330 ECO					
				280	350	430	500	570	650
3004	S103077	Burner 6 sections	1		x				
3004	S100329	Burner 7 sections	1			x			
3004	S100330	Burner 8 sections	1				x		
3004	S100331	Burner 9 sections	1					x	
3004	S103078	Burner 10 sections	1						x
3005	S57791	Venturi assembly 5 sections	1	x					
3005	S57792	Venturi assembly 6 sections	1		x				
3005	S57793	Venturi assembly 7 / 8 / 9 sections	1			x	x	x	
3005	S103079	Venturi assembly 10 sections	1						x
3006	S103151	valve gas multi block 10 sections	1						x
3007	S103072	Venturi - fan connecting piece 5 / 6 sections	1	x	x				
3007	S103073	Venturi - fan connecting piece 7 / 8 / 9 / 10 sections	1			x	x	x	x
3009	S103071	Non-return valve	1	x	x	x	x	x	x
3010	S103074	Gas filter HFVR	1	x	x	x	x	x	x
3015	S103075	Air box 5 / 6 / 7 / 8 / 9 / 10 sections	1	x	x	x	x	x	x
3016	S44483	Nut M8	10	x	x	x	x	x	x
3017	S103140	Sheet gasket Ø 250 mm	2	x	x	x	x	x	x
3018	S100570	Bolt M5x20	10	x	x	x	x	x	x
3020	S103042	Pipe gas supply 5 / 6 / 7 / 8 / 9 sections, left	1	x	x	x	x	x	
3020	S103043	Pipe gas supply 5 / 6 / 7 / 8 / 9 sections, right	1	x	x	x	x	x	
3023	S103279	Pressure test nipple 1/8"	1	x	x	x	x	x	x
3025	S103280	Gasket ring 56x42x2	5	x	x	x	x	x	x
3026	S103046	Pipe gas supply 5 + 6 sections, bottom left	1	x	x				
3026	S103047	Pipe gas supply 5 + 6 sections, bottom right	1	x	x				
3026	S103048	Pipe gas supply 7 / 8 / 9 sections, bottom left	1			x	x	x	
3026	S103049	Pipe gas supply 7 / 8 / 9 sections, bottom right	1			x	x	x	
3027	S103281	Venturi gasket	2	x	x	x	x	x	x
3031	S103266	Gasket for cover plate burner	2	x	x	x	x	x	x
3033	S103283	Nut flange M12	10	x	x	x	x	x	x
3035	S103070	Mixing adapter	1	x	x	x	x	x	x
3037	S103284	O-Ring Ø 180 x3,5mm	5	x	x	x	x	x	x
3039	S103285	O-Ring Ø 111x4 mm	2	x	x	x	x	x	x
3040	S46687	Nut flange M5	10	x	x	x	x	x	x
3041	S103286	Fan assembly plate	1	x	x	x	x	x	x
3044	S103288	Hose Ø 6x1 mm (1 meter)	1	x	x	x	x	x	x
3045	S103289	Coupling 90 degrees M5x6 mm	1	x	x	x	x	x	x
3046	S103076	Flexible hose complete	1	x	x	x	x	x	x
3047	S103044	Pipe gas supply 10 sections, left	1						x
3047	S103045	Pipe gas supply 10 sections, right	1						x
3048	S103050	Pipe gas supply 10 sections, bottom left	1						x
3048	S103051	Pipe gas supply 10 sections, bottom right	1						x
3049	S15524	Bolt M8x16	10	x	x	x	x	x	x
3050	S100619	O-Ring Ø 52,39x3,53	5	x	x	x	x	x	x
3051	S103290	Adapter 2"x1 1/2"	2	x	x	x	x	x	x
3052	S47170	Silicone hose 4/8, 1000 mm	1	x	x	x	x	x	x
3053	S103287	O-Ring Ø 130 x 3,5 mm	2	x	x	x	x	x	x
3055	S103356	Probe nipple	2	x	x	x	x	x	x
3056	S103357	Adapter M5-1/8"	2	x	x	x	x	x	x
3100	S103305	Gas leakage control, 5 / 6 / 7 / 8 / 9 sections (Accessory)	1	x	x	x	x	x	

Markers	Code no.	Description	Number	C 330 ECO					
				280	350	430	500	570	650
3100	S103306	Minimum gas pressure switch, 5 / 6 / 7 / 8 / 9 sections (Accessory)	1	x	x	x	x	x	
3101	S101724	Gas leakage control, 10 sections (Accessory)	1						x
3101	S101805	Minimum gas pressure switch, 10 sections (Accessory)	1						x
3102	S103292	Gas filter 10 sections	1						x
3104	59212	Air supply filter Ø 325 mm (Accessory)	1	x	x	x	x	x	x
Control panel									
4001	S103053	Control board PCU-06	1	x	x	x	x	x	x
4003	S103235	Cable harness 230V-1	1	x	x	x	x	x	x
4004	S103236	Cable harness 230V-2	1	x	x	x	x	x	x
4005	S103232	Switch power On/Off	1	x	x	x	x	x	x
4007	S103067	Front instrument panel	1	x	x	x	x	x	x
4008	S103068	Cover instrument panel back	1	x	x	x	x	x	x
4011	S100612	Sheet-metal screw 4,2x8	20	x	x	x	x	x	x
4016	S103065	Bracket Diematic	1	x	x	x	x	x	x
4018	S103300	SU-01 PCB	1	x	x	x	x	x	x
4019	S103056	Extended control PCB Diematic	1	x	x	x	x	x	x
4020	7600363	BUS cable	1	x	x	x	x	x	x
4022	S103063	Front instrument panel	1	x	x	x	x	x	x
4023	S103240	Cable harness 24V-1	1	x	x	x	x	x	x
4023	S103241	Cable harness 24V-2	1	x	x	x	x	x	x
4024	S103069	Spacer snaplock	10	x	x	x	x	x	x
4025	S100583	Spacer cap	1	x	x	x	x	x	x
4026	S14254	Sheet-metal screw 4,2x0,5	20	x	x	x	x	x	x
4027	S103238	Cable clamp	10	x	x	x	x	x	x
4028	S103233	RS232 cable	1	x	x	x	x	x	x
4029	S103299	Screw 2,9x19	10	x	x	x	x	x	x
4030	S103239	Bracket SCU	1	x	x	x	x	x	x
4031	S101249	Display print DeDietrich	1	x	x	x	x	x	x
4032	S103061	Cover drop down	1	x	x	x	x	x	x
4033	S103234	Mounting plate for instrument panel	1	x	x	x	x	x	x

Markers	Code no.	Description	Number	C 630 ECO					
				560	700	860	1000	1140	1300
5001	S103128	Linking kit	1	x	x	x	x	x	x
5002	S103119	Flue gas evacuation pipe Ø 250 mm / L = 890 mm	1	x	x	x	x	x	x
5003	S103119	Flue gas support	1	x	x	x	x	x	x
5004	S103313	Casing fittings 5-7 sections	1	x	x	x			
5004	S103314	Casing fittings 8-10 sections	1				x	x	x
5005	7600368	Clamp + Gasket ring Ø 250 mm	1	x	x	x	x	x	x
5006	7600369	Clamp + Gasket ring Ø 350 mm	1	x	x	x	x	x	x

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