



TECHNICAL MANUAL

GB

CODEX

**THREE PASS CONDENSING
BOILER WITH
LOW NO_x**

CE

1	GENERAL	4
2	GENERAL WARNINGS	5
3	HANDLING AND LIFTING	6
4	TECHNICAL DATA	7
4.1	DIMENSIONS AND FITTINGS	8
5	INSTALLATION	9
5.1	THERMAL PLANT.....	9
5.1.1	Boiler room.....	9
5.2	BASE	9
5.3	CHIMNEY	9
5.4	HYDRAULIC CONNECTIONS.....	10
5.4.1	Sealed hot water heating system with expansion vessel	10
5.5	INSULATION OF THE BOILER BODY	12
5.6	HOW TO ASSEMBLE THE CASE AND THE CONTROL PANEL	13
5.7	ELECTRICAL CONNECTIONS	17
5.8	OPTIONAL CONTROL PANEL.....	17
	Wiring diagram	17
5.9	STARTING	18
5.10	REVERSING THE DOOR HINGE POSITION	19
5.11	BURNER CONNECTION.....	19
6	START UP	20
6.1	PRELIMINARY CHECKS.....	20
6.2	WATER TREATMENT	20
6.3	FILLING THE SYSTEM.....	20
7	OPERATION	21
7.1	OPERATION CHECKS	21
7.2	TEMPORARY BOILER STOP	21
7.3	PROLONGED BOILER STOP	21
7.4	PERIODICAL USER CHECKS	21
7.5	MAINTENANCE AND CLEANING	21

1 GENERAL

This is a commercial condensing boiler patented. The boiler condenses and utilises the latent heat absorbed from the flue gases and is designed for operation with natural gas and LPG.

This boiler has no limit on boiler return temperature so the best boiler performance (efficiency 107%) is reached when the boiler is fitted to an under floor heating circuit or when the return temperature is under 58 deg. C . Above this temperature, the condensation phenomenon does not take place and so it is not possible take the latent heat from the vapour of the flue. The boiler efficiency is still very high (97%) even when the boiler is fitted in a traditional heating circuit plant working at delta T 80/65 deg. C.

The body that is slightly inclined, is composed of:

- single pass wet back furnace
- large diameter pipes connected directly to the furnace and the front tube plate (two-pass)
- corrugated horizontal flue passages, whose special surface increases: the heat exchange area, the flue gas turbulence and the formation of condense, the easy drainage of same (three-pass).
- boiler shell complete with boiler flow, constant temperature return , variable temperature return, fittings for control thermostats and safety devices.
- rear smoke box has the function to drain the condense and an chimney connection to drain any condense from the chimney.

All the parts of the boiler are manufactured in stainless steel AISI 316 Ti.

The high volume of the furnace reduces the thermal NOx production.

The high boiler efficiency is due to optimum combustion efficiency combined high density rock wool insulation, which puts the boiler in the top position in European regulation “4 stars” according the Efficiency Directive 92/42/EEC.

2 GENERAL WARNINGS

Each boiler is provided with a **manufacturer's plate** that can be found in the envelope with the boiler documents. The plate lists:

- Serial number or identification code
- Rated thermal output in kcal/h and in kW
- Furnace thermal output in kcal/h and in kW
- Types of fuels that can be used
- Max operating pressure.

A **manufacturer's certificate** is also provided which certifies the hydraulic test.

The installation must be in compliance with local regulations in force by **professionally qualified personnel**. The term "professionally qualified personnel" means persons with specific technical skills in the sector of heating system components.

Incorrect installation may cause damage to persons, animals or objects for which the manufacturer cannot be held responsible.

At the first start up, all regulation and control devices positioned on the control panel should be checked for efficiency. The **guarantee** shall be valid only upon compliance with the instruction given in this manual.

Our boilers have been built and tested in observance of EEC requirements.

IMPORTANT: This boiler has been designed to heat water to a temperature less than the boiling temperature of water at atmospheric pressure and must be connected to a heating plant and/or a domestic hot water plant within the limits of its performance and output.

WARNING!

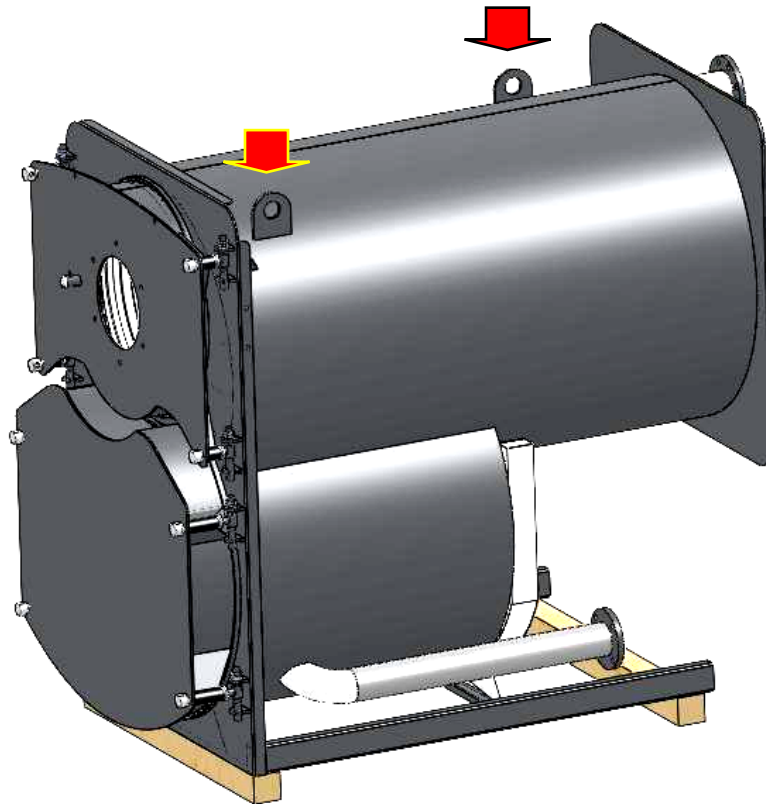
THE BOILER MAY ONLY BE INSTALLED IN A ROOM WHICH COMPLIES WITH THE APPROPRIATE VENTILATION REQUIREMENTS. READ THE INSTALLATION AND USER INSTRUCTION BEFORE INSTALLING AND LIGHTING THE BOILER.



Systems must be cleaned in accordance with British Standard Code of Practice BS 7593:1992, Code of practice for treatment of water in central heating systems.

3 HANDLING AND LIFTING

ATTENTION: Only the special eye bolts on the top of the boiler must be used for lifting



When using a forklift, the weight of the boiler must be balanced before proceeding. This can be achieved by positioning the forks equidistantly from the centre of gravity marked on the sides.

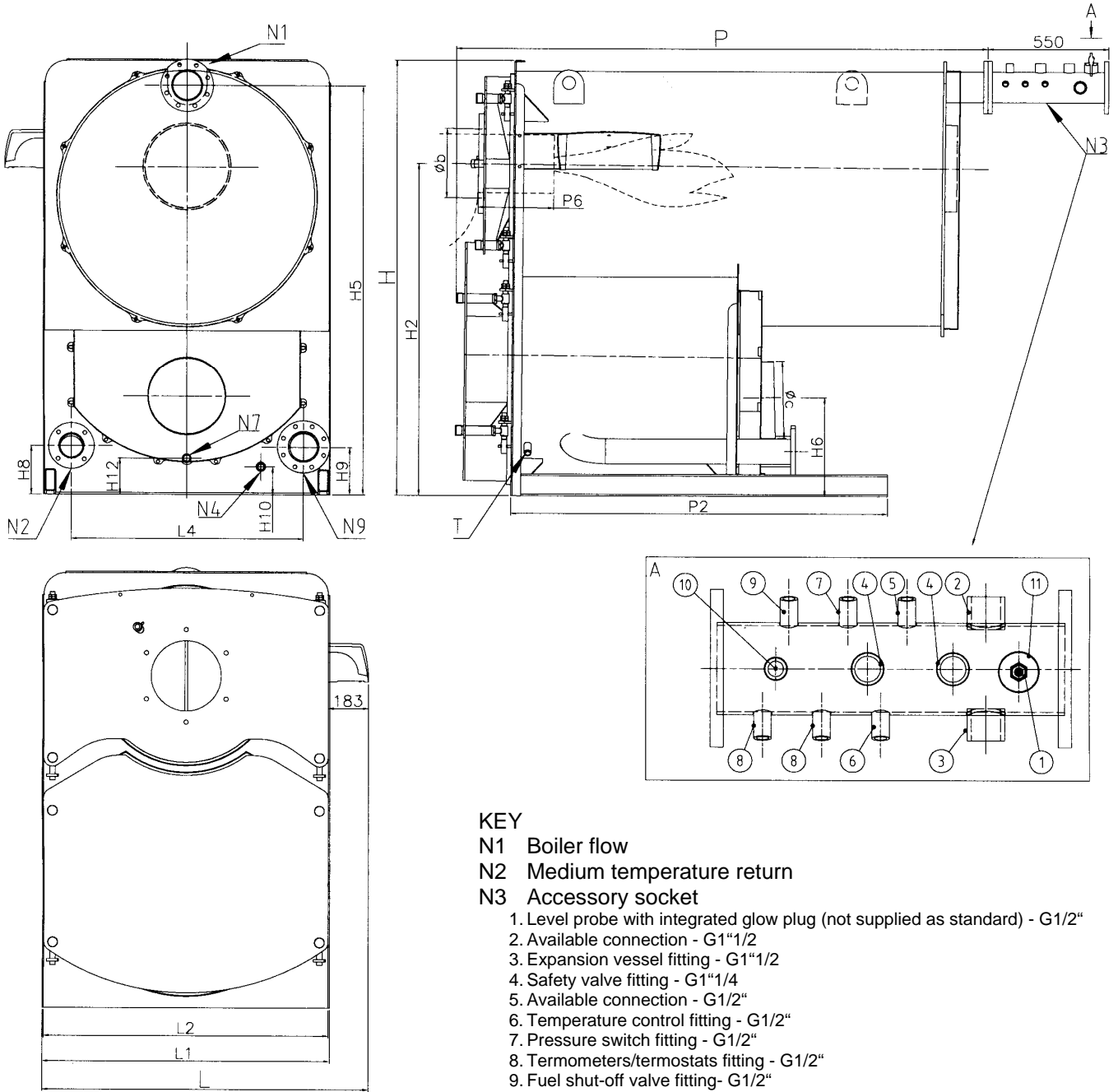
4 TECHNICAL DATA

Characteristics	Heat output				Heat input		Efficiency 100% (N.C.V.)		NG max flow rate G20	NG max flow rate G30	NG max flow rate G31	Max flow rate of flues
	kW	kcal/h	kW	kcal/h	kW	kcal/h	%	%	m ³ /h	kg/h	kg/h	kg/h
	Medium Temp. 70°C		Temp. flow/return 50/30°C				Medium Temp. 70°C	Temp. flow/return 50/30°C				
CODEX 600	549	471.840	600	516.000	558	480.000	98,3	107,5	59,06	43,84	43,36	879,99
CODEX 800	732	629.120	800	688.000	744	640.000	98,3	107,5	78,75	58,45	57,81	1173,38
CODEX 1000	914	786.400	1000	860.000	930	800.000	98,3	107,5	98,44	73,06	72,27	1466,76
CODEX 1200	1.097	943.680	1200	1.032.000	1116	960.000	98,3	107,5	118,12	87,67	86,72	1759,99
CODEX 1400	1.280	1.100.960	1400	1.204.000	1302	1.120.000	98,3	107,5	137,81	102,28	101,17	2053,37
CODEX 1600	1.463	1.258.240	1600	1.376.000	1488	1.280.000	98,3	107,5	157,50	116,89	115,63	2346,75

Characteristics	Minimum output				Minimum input		Efficiency at 30% (N.C.V.)		NG min flow rate G20	NG min flow rate G30	NG min flow rate G31	Min flow rate of flues
	kW	kcal/h	kW	kcal/h	kW	kcal/h	%	%	m ³ /h	kg/h	kg/h	kg/h
	Medium Temp. 70°C		Temp. flow/return 50/30°C				Medium Temp. 70°C	Temp. flow/return 50/30°C				
CODEX 600	182	156.147	200	172.000	184	158.525	98,5	108,5	19,51	14,48	14,32	290,64
CODEX 800	242	208.197	267	229.333	246	211.367	98,5	108,5	26,01	19,30	19,09	387,52
CODEX 1000	303	260.220	333	286.638	307	264.182	98,5	108,5	32,51	24,13	23,86	484,35
CODEX 1200	363	312.295	400	344.000	369	317.051	98,5	108,5	39,01	28,95	28,64	581,28
CODEX 1400	424	364.344	467	401.333	430	369.892	98,5	108,5	45,51	33,78	33,41	678,16
CODEX 1600	484	416.393	533	458.667	492	422.734	98,5	108,5	52,02	38,61	38,19	775,04

Characteristics	Pressure losses flue gas side	Heat losses through the chimney	Heat losses through the casing	Heat losses with burner off	Flue gas temp. at boiler output and air at 20 deg. C	Condense production	Press. losses water side	Design Pressure	Total capacity	Boiler weight	Electric supply	Frequency	Insulation class	Electric power	Fuel	
Modello	mbar	%	%	%	°C	kg/h	mbar	bar	l	kg	Volt ~	Hz	IP	W	Nat. gas	Lpg
		For condensing Temp. flow/return 50/30°C	For condensing Temp. flow/return 50/30°C	For condensing Temp. flow/return 50/30°C	GAS For condensing Temp. flow/return 50/30°C	Temp. flow/return 50/30°C	(ΔT=12K)							With electr. contr. (excluded pump and burner)		
CODEX 600	2,1	1,30	0,30	0,10	40	69,99	5	5	1191	1360	230	50	IP X0D	20	X	X
CODEX 800	3,7	1,30	0,30	0,10	40	93,32	5	5	1191	1360	230	50	IP X0D	20	X	X
CODEX 1000	4,2	1,30	0,30	0,10	40	116,65	5	5	1900	1776	230	50	IP X0D	20	X	X
CODEX 1200	6,2	1,30	0,30	0,10	40	139,97	5	5	1900	1776	230	50	IP X0D	20	X	X
CODEX 1400	8,3	1,30	0,30	0,10	40	163,30	5	5	1828	1850	230	50	IP X0D	20	X	X
CODEX 1600	10,8	1,30	0,30	0,10	40	186,64	5	5	1828	2103	230	50	IP X0D	20	X	X

4.1 DIMENSIONS AND FITTINGS



KEY

- N1 Boiler flow
- N2 Medium temperature return
- N3 Accessory socket
- 1. Level probe with integrated glow plug (not supplied as standard) - G1/2"
- 2. Available connection - G1"1/2
- 3. Expansion vessel fitting - G1"1/2
- 4. Safety valve fitting - G1"1/4
- 5. Available connection - G1/2"
- 6. Temperature control fitting - G1/2"
- 7. Pressure switch fitting - G1/2"
- 8. Termometers/thermostats fitting - G1/2"
- 9. Fuel shut-off valve fitting- G1/2"
- 10. Air vent fitting - G3/4"
- 11. Minimum level probe fitting - G1/2"
- N4 System filling/drainage
- N7 Boiler condensation drain
- N9 Low temperature return

Dimensions	H	H2	H5	H6	H8	H9	H10	H12	L	L1	L2	L4	P	P2	P6	Øb	Øc	N1	N2	N4	N7	N9
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	DN/in	DN/in	DN/in	DN/in	DN/in
CODEX 600	1918	1462	1797	444	192	192	62	74	1363	1183	1168	959	1948	1212	250-300	280	350	100	80	3/4"	1"	100
CODEX 800	1918	1462	1797	444	192	192	62	74	1363	1183	1168	959	1948	1212	250-300	280	350	100	80	3/4"	1"	100
CODEX 1000	2020	1522	1880	453	202	202	62	85	1493	1313	1298	1060	2443	1732	250-300	320	350	125	100	3/4"	1"	125
CODEX 1200	2020	1522	1880	453	202	202	62	85	1493	1313	1298	1060	2443	1732	250-300	320	350	125	100	3/4"	1"	125
CODEX 1400	2165	1610	2022	440	205	205	62	81	3231	1395	1378	1165	2437	1725	250-300	320	400	125	100	3/4"	1"	125
CODEX 1600	2165	1610	2022	440	205	205	62	81	3231	1395	1378	1165	2437	1725	250-300	320	400	125	100	3/4"	1"	125

5 INSTALLATION

Before **connecting** the boiler, the following operations must be completed:

- Thoroughly clean all the **system pipes** in order to remove any foreign matter that could affect correct operation of the boiler;
- Check that the **flue** has an **adequate draught**, that there is no narrowing of passages and that it is free from debris; also check that other appliances do not discharge into the flue (unless designed to serve several utilities). See the regulations in force.

5.1 THERMAL PLANT

5.1.1 BOILER ROOM

As a rule, regulations in force should be always observed. Premises in which boilers will be installed should be sufficiently ventilated and guarantee access for ordinary and extraordinary maintenance operations.

5.2 BASE

The boiler should be installed on a stand, 100/200 mm high, in order to create an air trap in the condensate drain, which is designed to retain fumes and evacuate water.

IMPORTANT

Make sure the boiler supporting base is perfectly horizontal. The door must be at a uniform slope to provide a proper drainage of the condensate to the smoke box.

5.3 CHIMNEY

The pressurised boiler, is so-called, because it uses a burner provided with fan. The fan introduces into the combustion chamber, the exact amount of air necessary in relation to the fuel and maintains an overpressure in the furnace equivalent to all the internal resistances of the flue gas path as far as the boiler exhaust. At this point the fan pressure should have dropped to zero to prevent the flue connection pipe and the lower area of the flue itself from being under pressure and combustion gas leaks occurring in the boiler room.

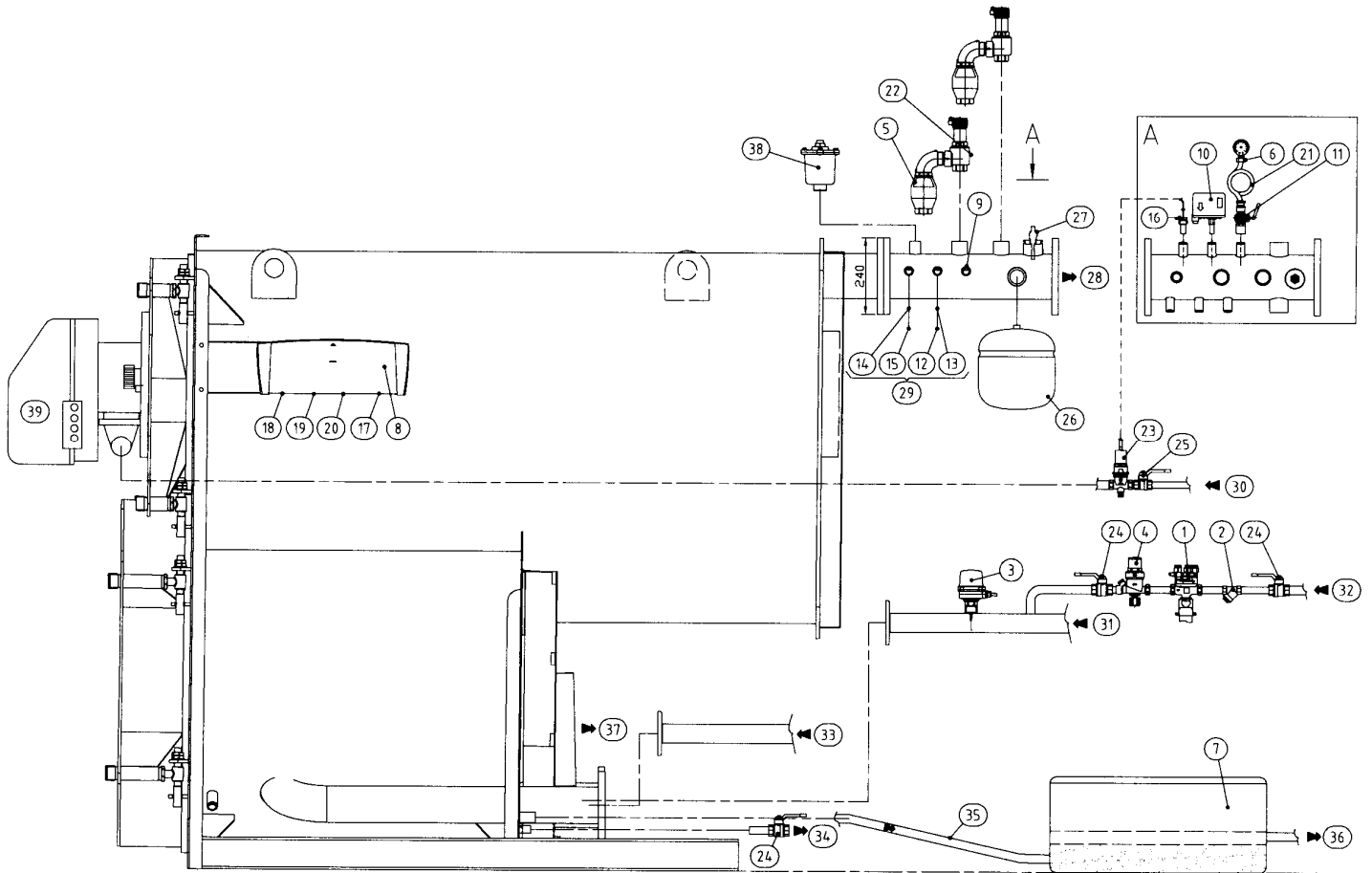
The **connection pipe** from the boiler to the flue must slope incline in the direction of the flue gas flow with recommended gradient of no less than 10%. Its path must be as short and straight as possible with the bends and fittings rationally designed in accordance with air duct criteria

WARNING

The flue gas temperature of this boiler is very low compare to the traditional non-condensing boilers, therefore, there is a very high humidity density. For this reason the boiler chimney must be water resistant, acid condense resistant and insulated to warrant sufficient draught.

5.4 HYDRAULIC CONNECTIONS

5.4.1 SEALED HOT WATER HEATING SYSTEM WITH EXPANSION VESSEL



KEY

- | | |
|------------------------------------|---------------------------------------------------------------------------|
| 1 Hydraulic disconnect switch | 21 Shock absorbing pipe |
| 2 Filter a y | 22 Safety valve (the 2 nd has a heating capacity above 580 kW) |
| 3 Water flow switch | 23 Fuel shut-off valve |
| 4 Filling unit | 24 Manual shut-off valve |
| 5 Tundish with articulated joint | 25 Manual shut-off valve for gas |
| 6 Pressure gauge | 26 Expansion vessel |
| 7 Acid condense neutralizer | 27 Level probe glow plug (optional) |
| 8 Boiler switchboard | 28 System flow |
| 9 Inspection well | 29 Probe sleeves inside the boiler |
| 10 Safety pressure switch | 30 Gas inlet |
| 11 Pressure gauge cock | 31 Low temperature return |
| 12 Termometer probe | 32 Return water inlet from the plant |
| 13 Safety thermostat probe | 33 Medium temperature return |
| 14 Regulation thermostat probe n°1 | 34 Boiler exhaust |
| 15 Regulation thermostat probe n°2 | 35 Acid condense outlet |
| 16 Fuel shut-off valve probe | 36 Neutralized condense outlet |
| 17 Termometer | 37 Outlet flue gas |
| 18 Regulation thermostat n°1 | 38 Air vent valve |
| 19 Regulation thermostat n°2 | 39 Burner |
| 20 Manual reset safety thermostat | |

Ensure that the hydraulic pressure measured after the reduction valve on the supply pipe does not exceed the operating **pressure specified on the rating plate of the component** (boiler, heater etc.).

- As the water contained in the heating system increases in pressure during operation, ensure that its maximum value does not exceed the maximum hydraulic pressure specified on the component rating plate (5 bar).
- Ensure that the safety valve outlets of the boiler and hot water tank, if any, have been connected to drain in order to prevent the valves from **flooding the room** if they open.
- Ensure that the pipes of the water and heating system **are not used as an earth connection** for the electrical system as this can seriously and very rapidly damage the pipes, boiler, heater and radiators.
- Once the heating system has been filled, you are advised to close the supply cock and keep it closed so that **any leaks from the system** will be identified by a drop in hydraulic pressure indicated on the system pressure gauge.

IMPORTANT!

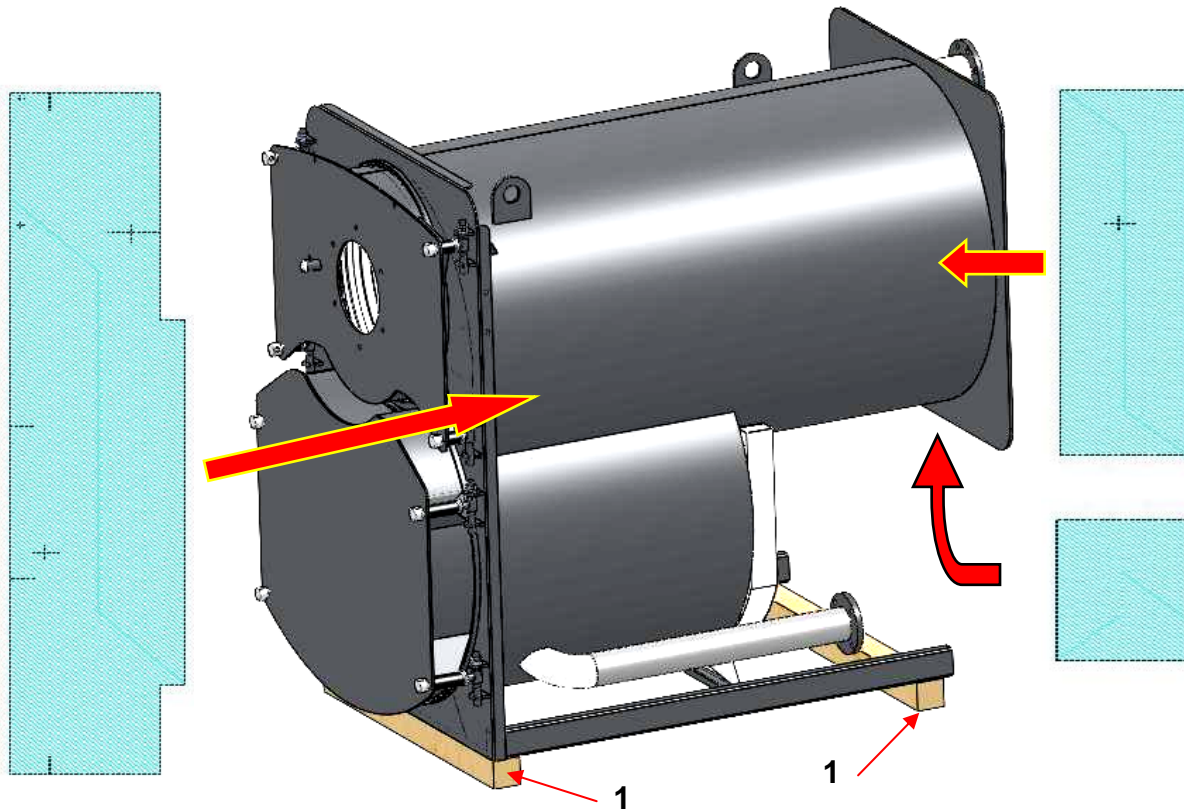
If the boiler is not supplied with acid condense neutralizer, a siphon must be fitted on the condensate drain in order to avoid flue gas leakage.

NOTE: IF ONLY ONE RETURN IS REQUIRED, ALWAYS USE THE LOW TEMPERATURE ONE

5.5 INSULATION OF THE BOILER BODY

The boiler is supplied fixed to a wooden supporting base (1) to allow handling and to facilitate the insulation process.

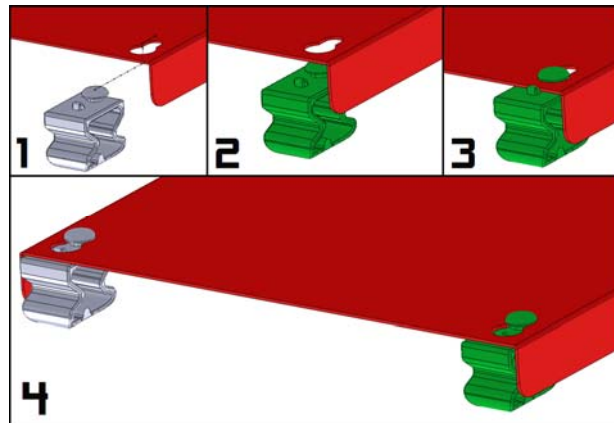
The glass wool insulation, consisting of 3 layers, must be wrapped on the parts shown in the figure and fixed to the connection sides by the appropriate clamps supplied.



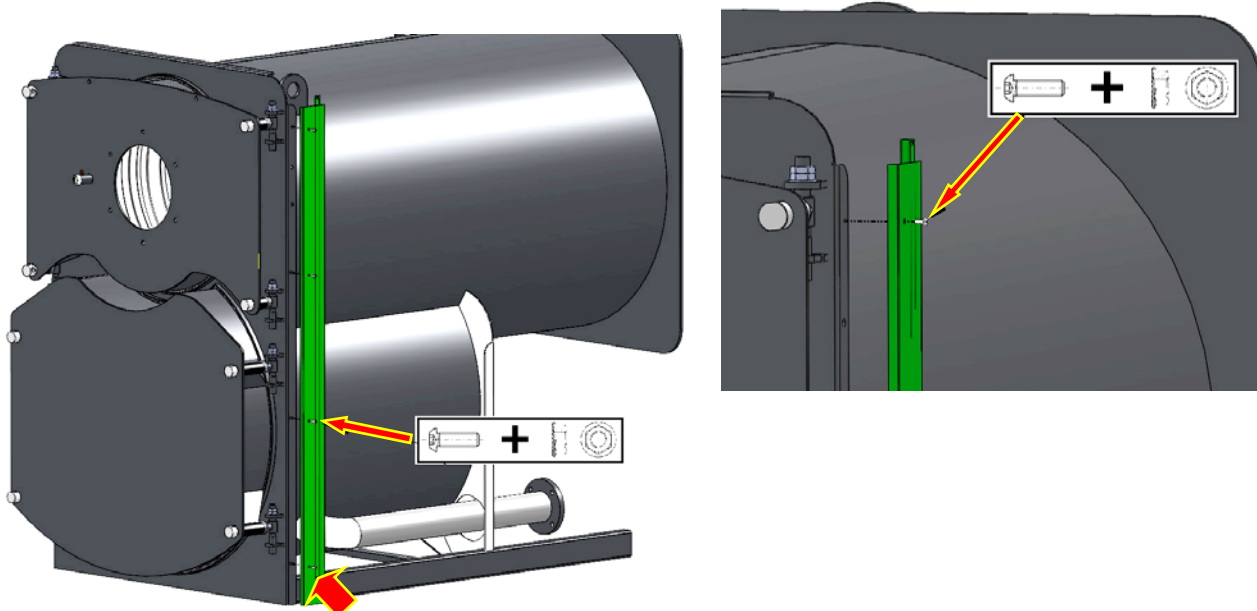
Once the glass wool is attached, the wooden support can be removed and the boiler can be placed in its final position.

5.6 HOW TO ASSEMBLE THE CASE AND THE CONTROL PANEL

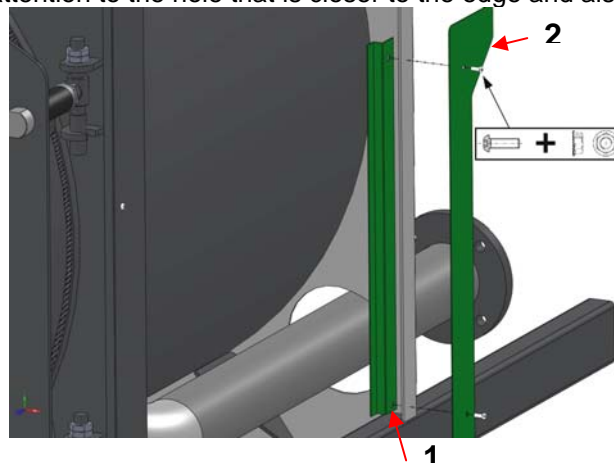
- 1) Prepare the staves by inserting the four stoppers, as shown in the figure.



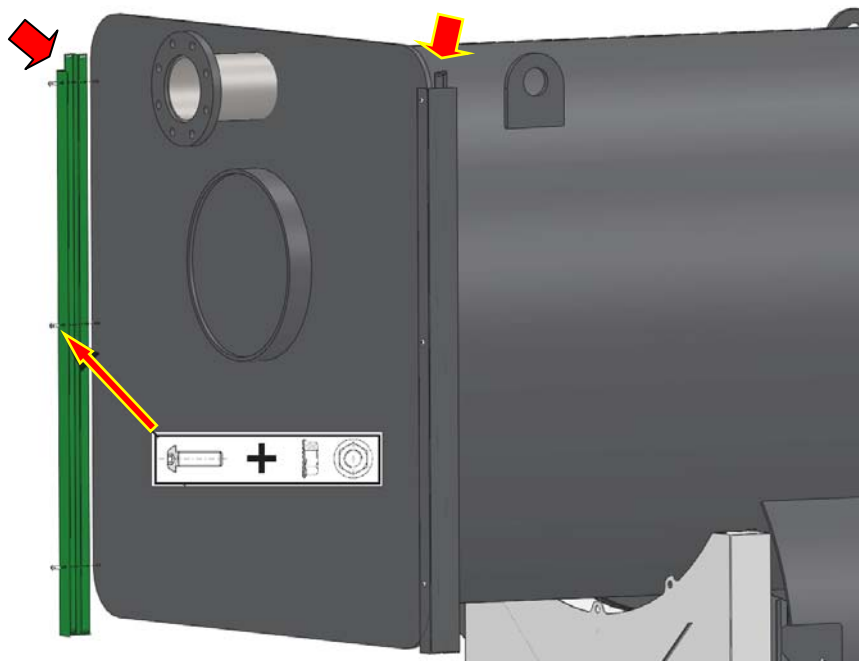
- 2) Secure the front struts to the plate using the appropriate screws and nuts.



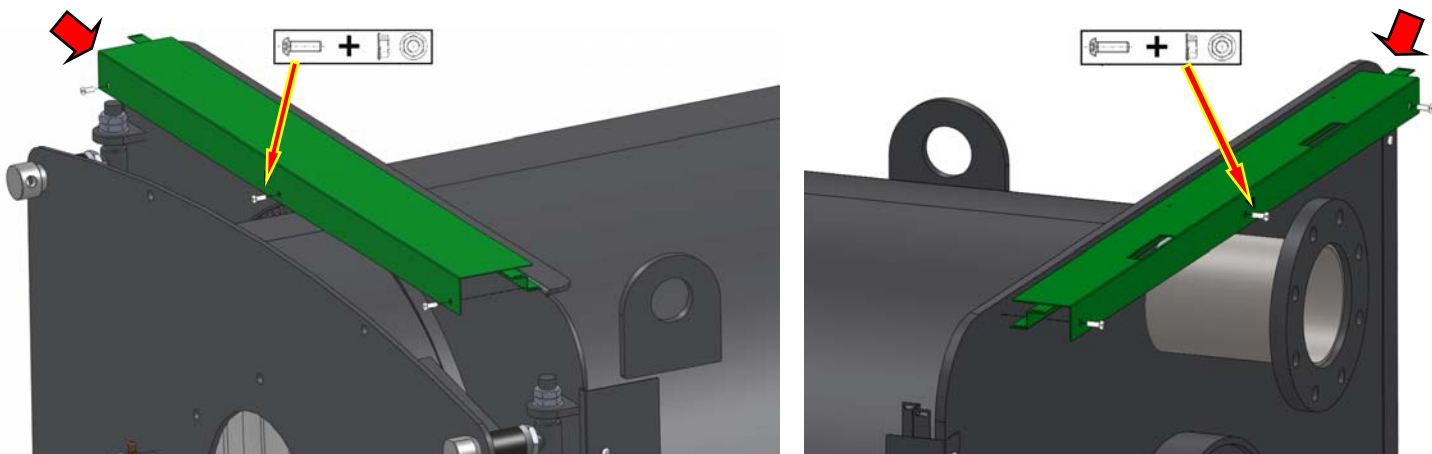
- 3) Fix the two items (1 and 2), which form the "stave steering" strut, to the front/back plate. Fit the internal item (1), right and left, paying attention to the hole that is closer to the edge and also on the lower side.



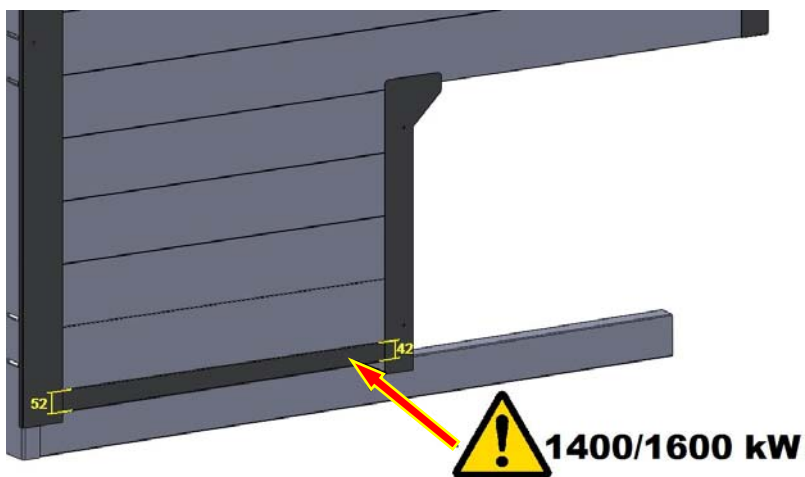
4) Fix the special “stave steering” struts to the upper/lower plate proceeding as described above.



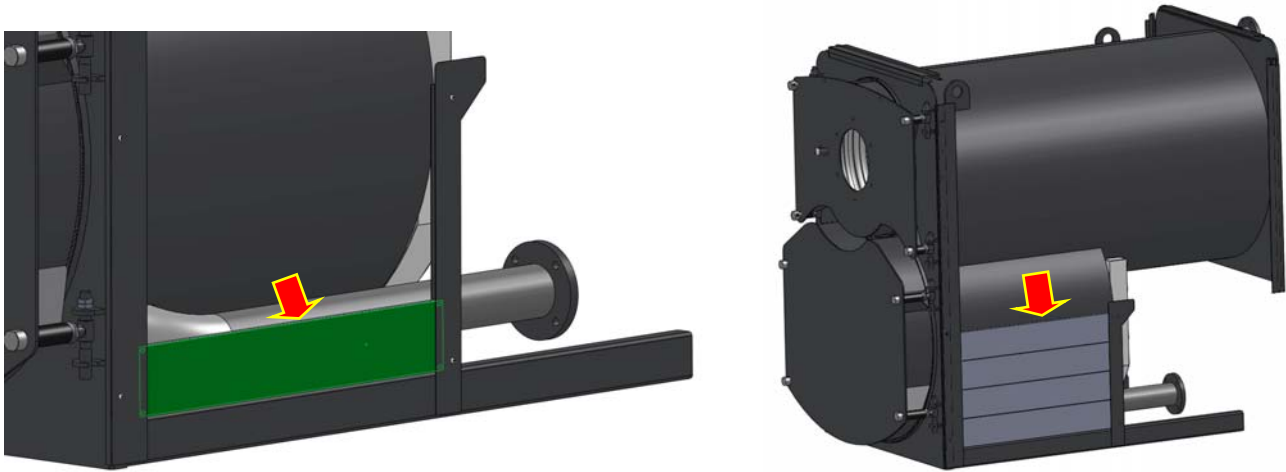
5) Then, in the same way, fix the two (front and back) beams.



NB: only models 1400/1600 kW require previous installation of the “spacer” staves, by applying the reverse technique: the larger part to the front side and the straight part to the back.



-
- 6) Insert the 4 short staves (previously prepared with the stoppers) between the struts, on each side.

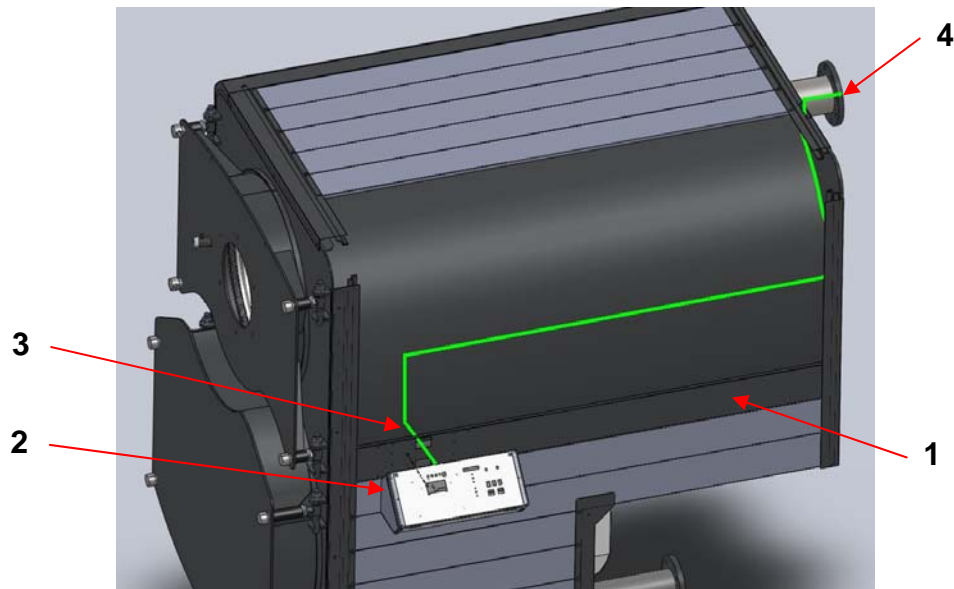


- 7) Insert the staves, including the one designed for the installation of the control panel.

HOW TO ASSEMBLE THE CONTROL PANEL

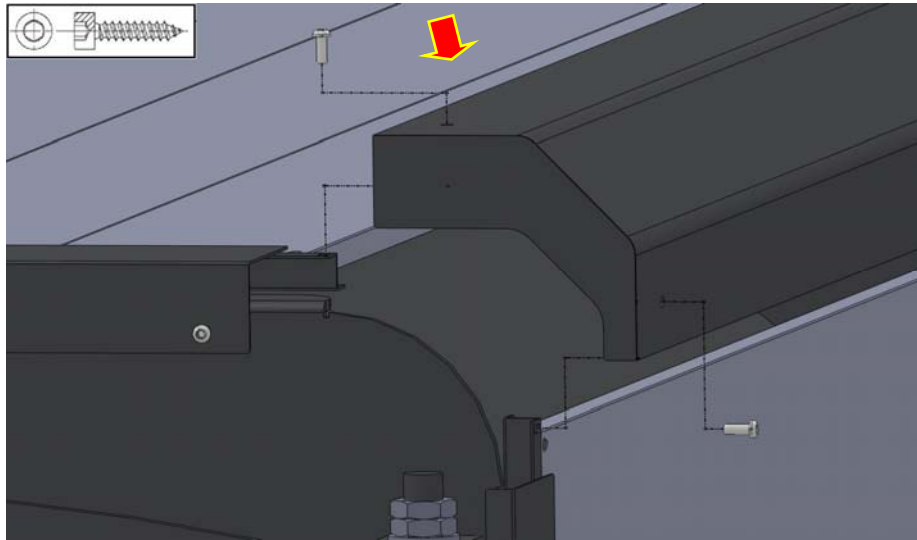
The control panel supplied in the boiler kit can be installed either to the right-hand side or the left-hand side of the wall.

The panel must be fixed to the corresponding stave (1) which has pre-prepared holes for the screws and slots for the capillary inlets.

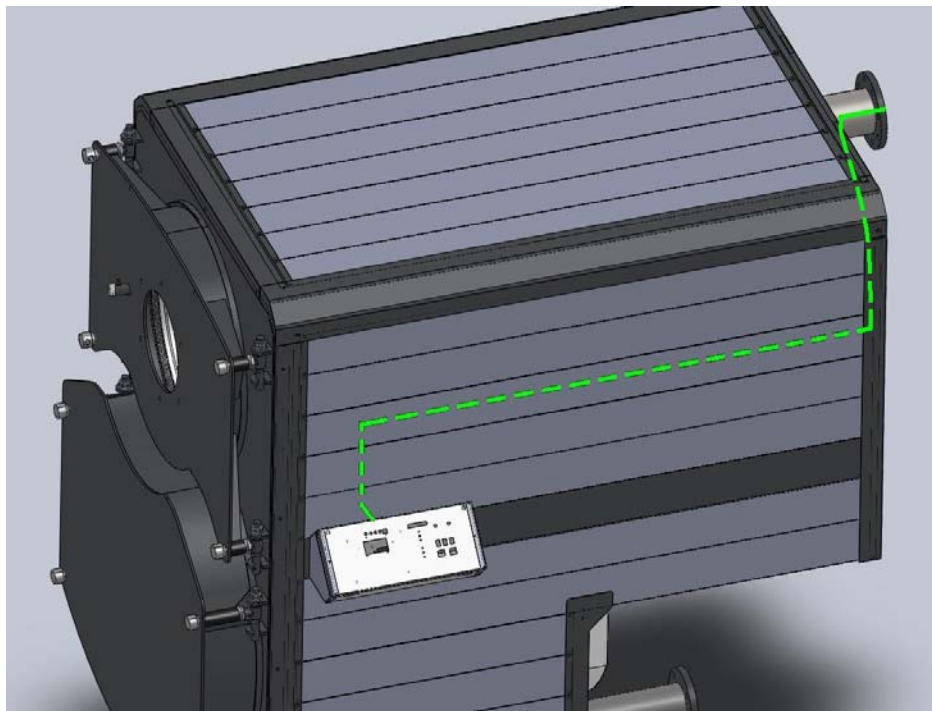


- 8) Fix the control panel (2) to the supporting stave and pass the capillaries (3) through the stave slot until they reach the bulb basins in the equipped socket (4), fitted on the boiler delivery line (inside the furnace).

-
- 9) After you have finished installing all the staves, proceed with the assembly of the closing frame, using the 4 self-threading screws.



- 10) View of the boiler with the case and control panel in position.

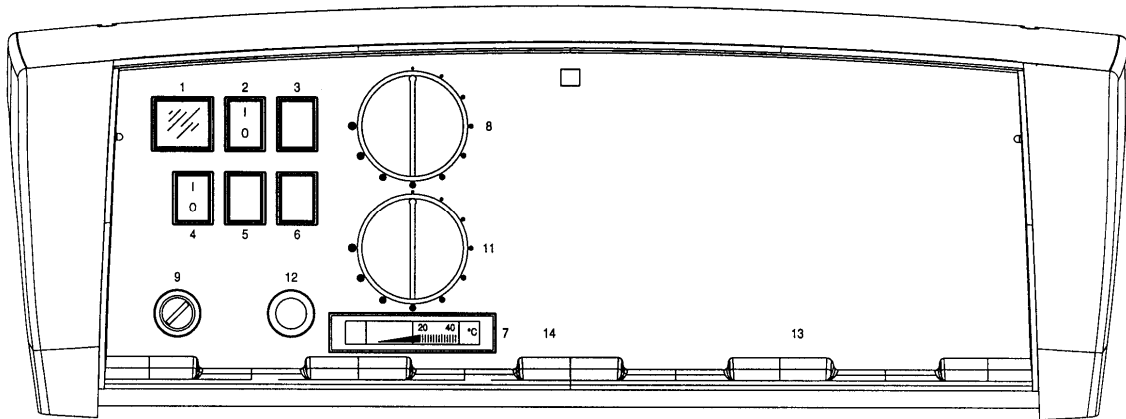


5.7 ELECTRICAL CONNECTIONS

Electrical systems of thermal plants designed only for heating purposes **must comply with numerous legal regulations which apply to in general as well as specifically to each application or fuel type.**

5.8 OPTIONAL CONTROL PANEL

The control panel (optional) with the boilers is made of self-extinguishing plastic and houses the regulation and safety instruments:



LEGEND

- 1 PANEL LIVE
- 2 BURNER SWITCH N. 1
- 4 HEATING PUMP SWITCH
- 7 BOILER THERMOMETER
- 8 BOILER LIMIT THERMOSTAT
- 9 SAFETY THERMOSTAT N° 1
- 11 2nd FLAME THERMOSTAT

The upper part of the control panel can be rotated to gain access to the terminal board and uncoil the thermostat and thermometer capillaries. A copy of the wiring diagram is contained inside the control panel cover.

The **control thermostats (TR1-TR2)** have an operating range from 0° to 90° and can be set by the user by means of the front dial.

Safety limit thermostats (TS) has a fixed setting of 100 (+0/-6)°C and can be manually reset.

For correct installation, refer to the boiler casing assembly instructions.

Wiring diagram

Refer to the diagram supplied with the specific switchboard.

5.9 STARTING

Open the gas tap (check if there is any gas leakage).

Switch on the burner and heating pump on the control panel.

At this point if the water temperature inside the boiler is less than the value set up on the control thermostat and the room thermostat/timer (if present) is closed, the burner and the pump will run.

WARNING

It is common to find air inside the gas pipe-work, especially during the initial start up or after a long period of without use. So if the flame failure occurs, repeat the same operation as previously explained.

NOTE: control pumps are running.

CONNECTION LIVE/NEUTRAL

If the connections of the live and the neutral are not correct, the burner will stop at the end of the safety time (even if the burner is running).

5.10 REVERSING THE DOOR HINGE POSITION

If the door is to be opened to the opposite side, act as follows:

1. Switch the outside nut (or bush) of one hinge with the diametrically opposite closure bush; then at the hinge side, fasten the cone to the door with the inside nut.
2. Repeat the operation for the other hinge.
3. For any adjustment needed, act on the specific hinge nuts.

5.11 BURNER CONNECTION

Before installation you are advised to thoroughly clean the inside of all the fuel supply system pipes in order to remove any foreign matter that could affect correct operation of the boiler. See technical specification tables and check the max pressure value inside the furnace.

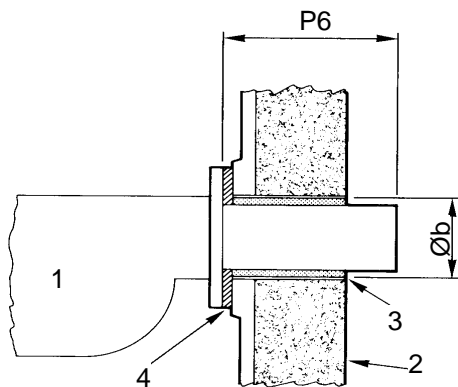
- a) Check the internal and external seal of the gas supply system;
- b) Regulate the gas flow according to the power required by the boiler;
- c) Check that the boiler is fired by the correct type of gas;
- d) Check that the supply pressure is within the values specified on the burner rating plate;
- e) Check that the supply system is sized for the maximum flow rate necessary for the boiler and that it is provided with all control and safety devices provided for by the regulations referred to above;
- f) Check that the boiler room vents are sized in order to guarantee the air flow established by the regulations referred to above and that they are in any case sufficient to obtain perfect combustion.

In particular,

- g) Check that the feeding line and the gas ramp comply with the regulations in force;
- h) Check that all the gas connections are sealed;
- i) Check that the gas pipes are not used as earth connections for electrical appliances.

If the boiler is not going to be used for some time, close the fuel supply cock or cocks.

IMPORTANT: check that the air spaces between the burner draught tube and the boiler door are suitably filled with thermo-insulating material (see fig.). The boiler is supplied with a piece of ceramic rope. Should this not suit the burner used, use a braid of different diameter but same material.



KEY:

1. Burner
2. Manhole
3. Thermoinsulating material
4. Flange

All details on the draught tube length (**P6**), the diameter of the burner hole (**Øb**) and the pressurization are included in the par. Technical Specifications.



ATTENTION: The boiler is designed for use with NATURAL GAS and LPG. The use of other fuels will void the boiler warranty.

6 START UP

6.1 PRELIMINARY CHECKS

Before starting the boiler, check that:

- The **rating plate** specifications and power supply network (electricity, water, gas) specifications correspond;
- The burner **power range** is compatible with the power of the boiler;
- The boiler room also contains the instructions for the burner;
- The **flue gas exhaust pipe** is operating correctly;
- The **air inlet supply** is well dimensioned and free from any obstacle;
- The **boiler door**, the **smoke box** and the **burner plate** are closed in order to provide a complete flue gas seal;
- The system is **full of water** and that any **air pockets** have therefore been eliminated;
- The **anti-freeze** protections are operative;
- The water **circulation pumps** are operating correctly.
- The expansion vessel and the safety valve(s) have been connected correctly (with no interception) and are properly operating.
- Check the electrical parts and thermostat operation.

6.2 WATER TREATMENT

If the boiler is to be installed in an existing system where there could be frequent losses from the system or if the hardness of the water is greater than 10 F, it will be necessary to use a filter and a softener for system water and control the pH above 8-9.

The most common phenomena that occur in heating systems are:

- **Scaling**

Scale obstructs heat transfer between the combustion gases and the water, causing an abnormal increase in the temperature of the metal and therefore reducing the life of the boiler.

Scale is found mostly at the points where the wall temperature is highest and the best remedy, at construction level, is to eliminate areas that overheat.

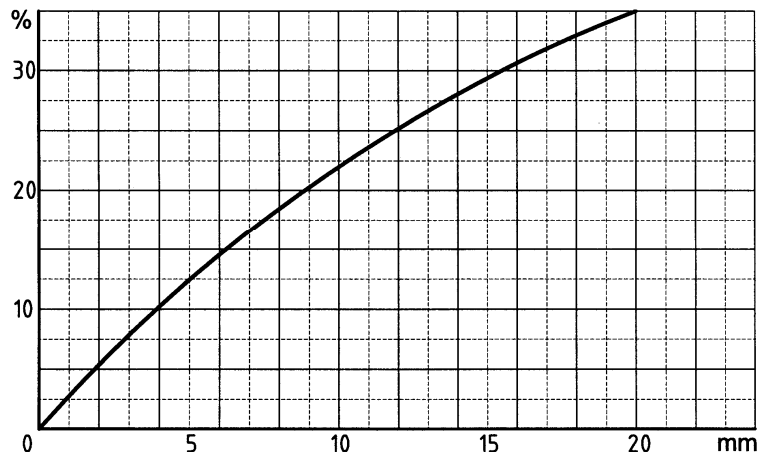
Scale creates an insulating layer, which reduces the thermal transfer of the boiler, affecting system efficiency. This means that the heat produced by burning the fuel is not fully transferred and is lost to the flue.

Scale diagram

Key

% % fuel not used

mm mm scale



- **Corrosion on the water side**

Corrosion of the metal surfaces of the boiler on the water-side is due to the passage of dissolved iron through its ions (Fe+). In this process the presence of dissolved gases and in particular of oxygen and carbon dioxide is very important. Corrosion often occurs with softened or de-mineralised water, which has a more aggressive effect on iron (acid water with Ph <7): in these cases, although the system is protected from scaling, it is not protected against corrosion and the water must be treated with corrosion inhibitors.

6.3 FILLING THE SYSTEM

The water must enter the system as slowly as possible and in a quantity proportional to the air bleeding capacity of the components involved.

In the case of a system with **closed expansion vessel**, water must be let in until the pressure gauge indicator reaches the static pressure value, pre-set by the vessel. Heat the water to maximum temperature and never over 90°C. During this operation, the air contained in the water is released through the automatic air separators or through manual bleed valves. The water discharged from the system with elimination of the air is made up by the automatic or manual-filling valve.

7 OPERATION

7.1 OPERATION CHECKS

The heating system must be used suitably, ensuring on the one hand, optimum combustion with reduced emission to the atmosphere of carbon monoxide, hydrocarbons and soot, and on the other avoiding all damage to persons and property.

The pressurisation must remain within the limit values shown in the technical data table.

The burner switch should always remain on; this ensures that the boiler water temperature remains near the value set by the thermostat.

In the case of flue gas leaks from the front of the boiler (door and burner plate), the closure tie rods of the single parts must be adjusted; if this is not sufficient, replace the gaskets.

WARNING

Do not open the door and do not remove the fume chamber while the burner is in operation. In all cases wait a few minutes after stopping the burner for the insulation to cool.

7.2 TEMPORARY BOILER STOP

To stop the boiler temporarily, set the main switch on the control panel to "OFF". The electrical parts will now be free of power.

7.3 PROLONGED BOILER STOP

Close the gas valve that is fitted upstream of the boiler.

WARNING: During long stoppages in winter, and in order to avoid frost damage, drain the heating system water.

7.4 PERIODICAL USER CHECKS

- Check periodically that there is no air in the heating system, and if necessary open the vent valve at the top of the boiler.
- Periodically check the boiler pressure.

7.5 MAINTENANCE AND CLEANING

All maintenance and cleaning can only be carried out only after closing the fuel supply and switching off the electrical supply.

As economic operation depends on the cleanliness of the heat exchanger surfaces and on burner adjustment, it is recommended to:

- Have the burner settings checked by professionally qualified personnel;
- Analyse the system water and allow for adequate water treatment to avoid the formation of calcareous incrustations that initially reduce boiler efficiency, and then lead to damage;

IMPORTANT

Regular maintenance of the boiler is recommended, by looking through the special side inspection caps (see the Technical Data section) for any lime deposits and carrying out a chemical cleaning, if required.

- Check that the ceramic insulation around the doors, the gaskets for smoke (glass braid insulation on the doors) and the rubber lip seal (smoke box) are intact; fix them if necessary;
- Check that the flame driving box inside the furnace is intact.
- Open the lower door and check that the drain pipe, which collects the condensate from the front tube plate and conveys it directly to the smoke box, is not clogged and clean it if required.
- Periodically check the efficiency of the regulation and safety instruments on the system.

NOTE:

Before you disassemble the smoke box we recommend removing the surrounding glass wool layer, which is hooked to the insulation material by a fastening spring.



alta tecnologia del calore

ICI CALDAIE SpA
Via G. Pascoli, 38
37059 Campagnola di Zevio VR

Telefono 045 8738511
Fax 045 8731148
Info@icicaldaie.com
www.icicaldaie.com

Partita Iva 00227490232
Rag. Soc. n. 6677
C.C.I.A.A. VR n. 69600

Appartenente al Gruppo Finluc
Iscritto R.I. VR 02245640236

DECLARATION OF CONFORMITY WITH THE EUROPEAN COMMUNITY REGULATIONS

I undersigned Emanuela Lucchini, Managing Director of ICI CALDAIE S.p.A., headquartered in via G. Pascoli 38 – 37059 Campagnola di Zevio (VR) Italy

DECLARE THAT STEEL BOILERS

CODEX

comply with the CE certificate and with the following regulations (or harmonised regulations):

EN 60335-1, EN 303-1, pr EN 303-3

In accordance with the boards regulations:

- Gas Directive 90/396/CEE
- Low Voltage Directive 73/23/CEE (modified by 93/68)
- Efficiency Directive 92/42/CEE
- EMC Directive 89/336/CEE

Campagnola di Zevio, li 14/05/2010

ICI CALDAIE S.p.A.
Direttore Generale
Emanuela Lucchini



*The Declaration of Conformity of the burner is enclosed in the relative documentation.



Appartenente al Gruppo Finluc, iscritto R.I. VR n. 02245640236

Via G. Pascoli, 38 - 37059 Zevio - fraz. Campagnola - VERONA - ITALIA

Tel. 045/8738511 - Fax 045/8731148

info@icicaldaie.com - www.icicaldaie.com

The data listed is indicative only and is not binding. Our company reserves the right to introduce alterations at any time as it deems fit and proper for the development of the product.