

Extraflame

TERMOCOMBI TC 30



User manual

REVERSE FLAME PELLET AND WOOD BOILERS

Read the instructions carefully before installation, use and maintenance.

The instruction book is an integral part of the product.





Congratulations! You are now the owner of an Extraflame boiler

The Extraflame boiler is a great heating solution developed from the most advanced technology with top quality machining and modern design, aimed at making you enjoy the fantastic sensation that the heat of a flame gives, in complete safety.

This manual will help you to use your boiler correctly. It must be read with great attention before use.

IMPORTANT

Make sure that your dealer fills the space in that is dedicated to your authorised specialist. He will help you with pleasure if you should have problems using your new boiler.

AUTHORISED SPECIALIST

COMPANY _____
Mr. _____
STREET NAME _____ N°. _____
POST CODE _____ TOWN/CITY _____ COUNTY _____
TELEPHONE _____ FAX _____

All Extraflame products are built in compliance with the following Directives:

- ❖ **89/106 EEC (Construction Products)**
- ❖ **89/366 EEC (EMC Directive)**
- ❖ **2004/108 CE (EMC Directive)**
- ❖ **2006/95 CE (Low Voltage Directive)**

and the Standards:

- ❖ **EN 60335-1**
- ❖ **EN 60335-2-102**
- ❖ **EN 61000-3-2**
- ❖ **EN 61000-3-3**
- ❖ **EN 50366**
- ❖ **EN 55014-1**
- ❖ **EN 55014-2**
- ❖ **EN 303-5**





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WARNINGS AND SAFETY DEVICES

INTRODUCTION

The boilers produced by our establishment are built with attention to the individual components in a way to protect both the user and the installer from any accidents. It is therefore recommended that after any intervention on the product, that authorised staff pay particular attention to the electric connections, especially the stripped parts of the wires. These must not escape from the terminal board in any situation, thus preventing possible contact with the live parts of the wire.

The instruction manual is an integral part of the product: make sure that it always accompanies the appliance, even if transferred to other owners or user or is transferred to another place. If it is damaged or lost, request another copy from the area technician.

This boiler must be destined for the use for which it has been expressly realised. The manufacturer is exempt from any liability, contractual and extracontractual, for injury/damage caused to persons/animals and objects, due to installation, adjustment and maintenance errors and improper use.

INSTALLATION

Installation of the boiler and auxiliary equipment in relation to the heating system must comply with all current Standards and Regulations and to those envisioned by the law. Installation must be carried out by authorised staff, who must provide the buyer with a declaration of conformity for the system and will assume full responsibility for final installation and as a consequence the correct functioning of the installed product.

It is necessary to bear in mind all laws and national, regional, provincial and town council normatives present in the country the appliance has been installed.

ExtraflameS.p.A. cannot be held responsible for the failure to comply with such precautions. Before installation, wash the pipes of the system well in order to remove any residues that could compromise the correct functioning of the appliance. During installation, inform the user regarding:

- a. In case of water leaks, he must close the water supply and promptly warn the after-sales technical service.
- b. The system working pressure must be checked periodically. If the boiler is not used for a long period of time, it is recommended that the after-sales technical service is contacted to carry out at least the following operations:
 - Position the master switch on position 0.
 - Close the water taps of both the heat system and the domestic hot water system;
 - Empty the heating system and the domestic hot water system if there is risk of freezing.

COMMISSIONING

After the packaging has been removed, check the integrity and completeness of the contents.

If this does not comply, contact the dealer where the appliance was purchased.

During commissioning of the product, check the correct functioning of all devices, both safety and control, which make up the boiler. All electrical components that make up the boiler must be replaced with original spare parts exclusively by an authorised after-sales centre, thus guaranteeing correct functioning.

Before leaving the system, the staff in charge of commissioning must check boiler functioning for at least one complete work cycle. The boiler must be serviced at least once a year, programming it in advance with the technical after-sales service.

APPROVALS

The Extraflame boilers have been designed and realised in compliance with the following Directives:

- ❖ UNI EN 303-5 Boilers for central heating. Boilers for solid fuel, with manual and automatic feeding, with a nominal heat output up to 300 kW
- ❖ Compliance with the Low Voltage Directive (73/23 EEC)
- ❖ Compliance with the EMC Directive (Electromagnetic compatibility 89/336 EEC)

FOR SAFETY

- ❖ The boiler must not be used by children or unassisted disabled persons.
- ❖ Do not touch the boiler when you are barefoot or when parts of the body are wet or humid.
- ❖ The safety and adjustment devices must not be modified without the authorisation or indications of the manufacturer.
- ❖ Do not pull, disconnect, twist electric cables leaving the boiler, even if disconnected from the electric power supply mains.
- ❖ Do not close or reduce the dimensions of the airing vents in the place of installation.
- ❖ The airing vents are indispensable for correct combustion.
- ❖ Do not leave the packaging elements within reach of children or unassisted disabled persons.
- ❖ The hearth door must always be closed during normal functioning of the product.
- ❖ Avoid direct contact with parts of the appliance that tend to heat up during functioning.
- ❖ Check for the presence of any obstructions before switching the appliance on following a prolonged standstill period.
- ❖ The boiler has been designed to function in any climatic condition (also critical). In particularly adverse conditions (strong wind, freezing) safety systems may intervene that switch the boiler off.
- ❖ If this occurs, contact the technical after-sales service and always disable the safety system.
- ❖ If the flue should catch fire, be equipped with suitable systems for suffocating the flames or request help from the fire service.
- ❖ If the boiler should block, indicated by a signal on the display and that is not relative to lack of routine maintenance, contact the technical after-sales centre.

USE

These boilers must be used to heat water to a temperature that does not exceed boiling point in the conditions of installation.

TECHNICAL FEATURES

Features	U.M.	TC 30 Pellet	TC 30 Wood
Boiler class	/	3	3
Introduced global heat output	kW	27,8	34,9
Max. useful heat output	kW	25,3	30,8
Min. useful heat output	kW	4,5	/
Yield	%	> 91	> 87
Hourly fuel consumption	kg/h	1 - 5,9	4,5 - 9
Flue gas temperature at max. useful heat output	°C	~ 105	~ 140
Flue gas temperature at min. useful heat output	°C	~ 65	~ 110
Flue gas flow rate at max. useful heat output	kg/s	0,0136	0,022
Chimney depression	Pa	11	11
Maximum hydraulic pressure	MPa	0,3	0,3
Water side head loss (17°C)	kPa	0,840 (1200 l/h)	0,840 (1200 l/h)
	kPa	3,300 (2500 l/h)	3,300 (2500 l/h)
Water temperature adjustment	°C	65 - 80	65 - 80
Water return to boiler minimum temperature*	°C	55	55
Boiler external dimensions	mm (HxLxP)	1600 x 749 x 1180	1600 x 749 x 1180
Pellet tank external dimensions	mm (HxLxP)	1351 x 618 x 720	1351 x 618 x 720
Boiler with pellet tank external dimensions	mm (HxLxP)	1600 x 1446 x 1180	1600 x 1446 x 1180
Pellet feed hatch dimensions	mm	580 x 660	-
Wood feed hatch dimensions	mm (HxL)	-	337 x 400
Empty boiler weight	kg	730	730
Empty pellet tank weight	kg	~ 100	~ 100
Boiler water volume	l	120	120
Pellet tank capacity	l - kg	260 - 180	-
Wood combustion chamber capacity	l	-	120
Smoke exhaust diameter	mm	150	150
Maximum electric power absorbed in the pellet ignition phase	W	800	800
Thermal safety valve features (water)	°C	< 20	< 20
	MPa	> 0,15	> 0,15

The boilers are managed by a circuit board with microprocessor with a lambda probe that corrects boiler functioning anomalies by means of constant analysis of the exhaust gases.

The data obtained from the combustion tests have been realised using the following fuels:
ONORM M7 135 DIN PLUS Pellets.

* Realise a suitable anti-condensate circuit in a way to guarantee a minimum water temperature returning to the boiler that is equal to the value indicated (see "SAFETY DEVICES" chapter).

- ❖ Pellet and chopped wood supply
- ❖ Automatic ignition for pellets and chopped wood
- ❖ Set functioning mode at will (pellet, wood or mixed)
- ❖ Automatic passage of the setting (pellet/wood and vice versa) depending on the fuel available
- ❖ Self-adjusting combustion and automatic cleaning
- ❖ Automatic dispensing of the primary and secondary air flow rate
- ❖ Preparation for external storage silo
- ❖ Cleaning device for the external shell and tube
- ❖ Draught: for modulating intake with control via encoder of the flue gas intake speed
- ❖ Pellet insertion controlled by safety fire-cut rotary valve
- ❖ Complete management via microprocessor

REFERENCE	FITTINGS DIAMETER	FITTINGS FUNCTION
T1	1"	Heating flow
T4	1"	Heating return
T5 = T6	3/4"	D.S.A. Safety exchanger attachments
T7	1/2"	Sump connection
T8	3/4"	Boiler water drain
T9	1/2"	Safety heat exchanger probe sump connection

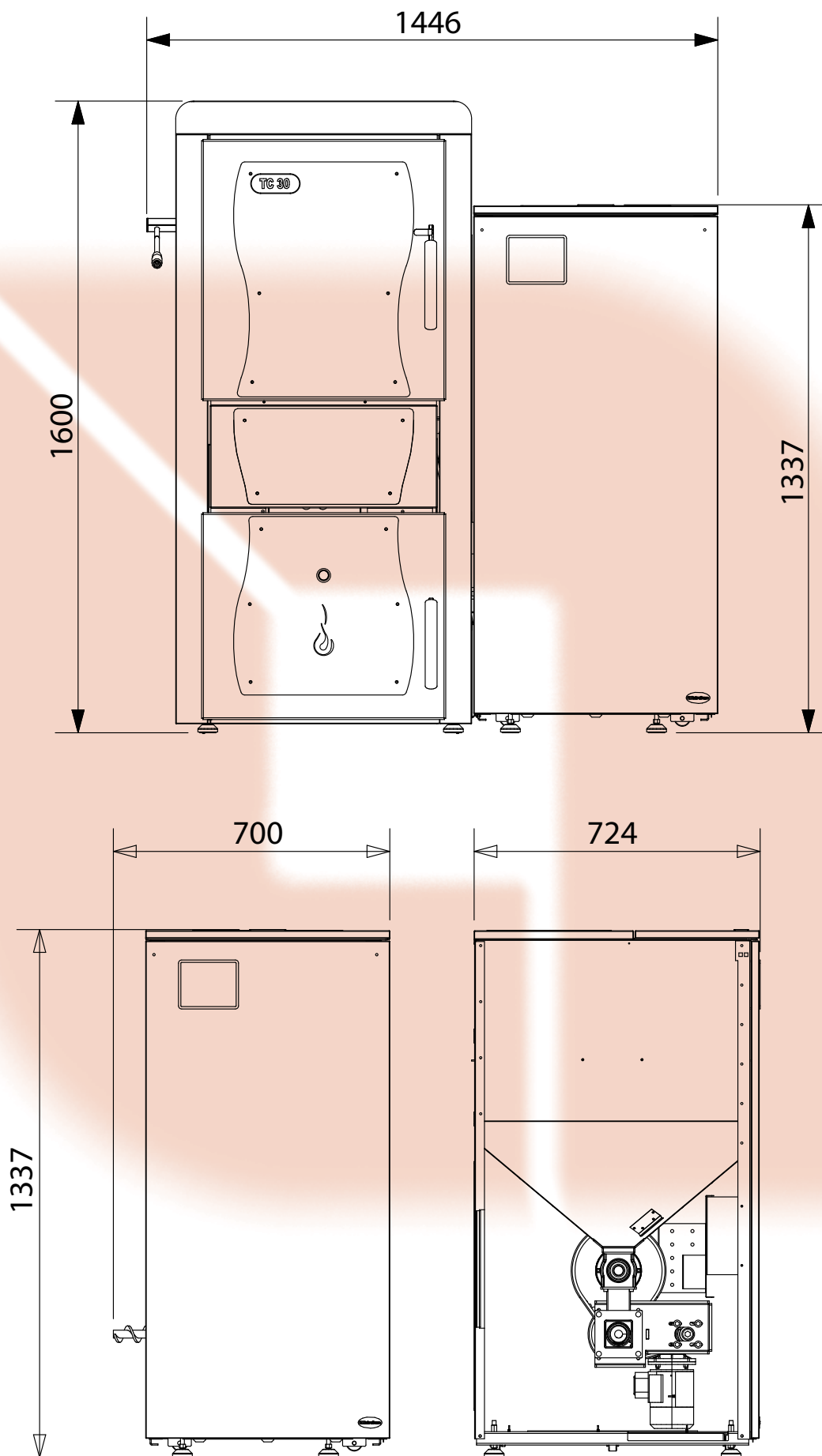


In order to obtain maximum heat exchange it is good practice to connect the water flow and return in a crossed manner i.e. T1 with T4.

figure 2.1

T1	MANDATA/USCITA CALDAIA	Ø 1"
	BOILER FLOW/OUTLET	
	REFOULEMENT/SORTIE CHAUDIERE	
	KESSEL-VORLAUF/AUSGANG	
	IDA/SALIDA DE LA CALDERA	
T2	RACCORDO TAPPATO - NON UTILIZZARE!	
	FITTING BLOCKED - DO NOT USE	
	RACCORD BOUCHÉ - NE PAS UTILISER !	
	VERSCHLOSSENER ANSCHLUSS - NICHT BENUTZEN!	
	RACOR TAPADO - ¡NO UTILIZAR!	
T3	RACCORDO TAPPATO - NON UTILIZZARE!	
	FITTING BLOCKED - DO NOT USE	
	RACCORD BOUCHÉ - NE PAS UTILISER !	
	VERSCHLOSSENER ANSCHLUSS - NICHT BENUTZEN!	
	RACOR TAPADO - ¡NO UTILIZAR!	
T4	RITORNO/INGRESSO CALDAIA	Ø 1"
	BOILER RETURN/INLET	
	RETOUR/ENTRÉE CHAUDIÈRE	
	KESSEL-RÜCKLAUF/EINGANG	
	RETORNO/ENTRADA DE LA CALDERA	
T5 - T6	ATTACCHI SCAMBIATORE DI SICUREZZA D.S.A.	Ø 3/4"
	D.S.A. SAFETY HEAT EXCHANGER CONNECTIONS	
	RACCORDS ÉCHANGEUR DE SÉCURITÉ D.S.A.	
	ANSCHLÜSSE SICHERHEITSWÄRMETAUSCHER D.S.A.	
	CONEXIONES INTERCAMBIADOR DE SEGURIDAD D.S.A.	
T8	SCARICO ACQUA CALDAIA	Ø 3/4"
	BOILER WATER DRAIN	
	VIDANGE EAU CHAUDIÈRE	
	KESSEL-WASSERABLAUF	
	DESCARGA DE AGUA DE LA CALDERA	
T9	ATTACCO POZZETTO SONDA SCAMBIATORE SICUREZZA	Ø 1/2"
	SAFETY EXCHANGER PROBE SUMP CONNECTION	
	RACCORD PUISARD SONDE ÉCHANGEUR SÉCURITÉ	
	TAUCHHÜLSEN-ANSCHLUSS SONDE SICHERHEITSWÄRMETAUSCHER	
	CONEXIÓN DEL REGISTRO DE SONDA DE INTERCAMBIADOR DE SEGURIDAD	
B	CONDOTTO ESPULSIONE FUMI	Ø 150
	FLUE GAS EXHAUST PIPE	
	CONDUIT EXPULSION FUMÉES	
	RAUCHABZUGSLEITUNG	
	CONDUCTO DE EXPULSIÓN DE HUMOS	

TC30

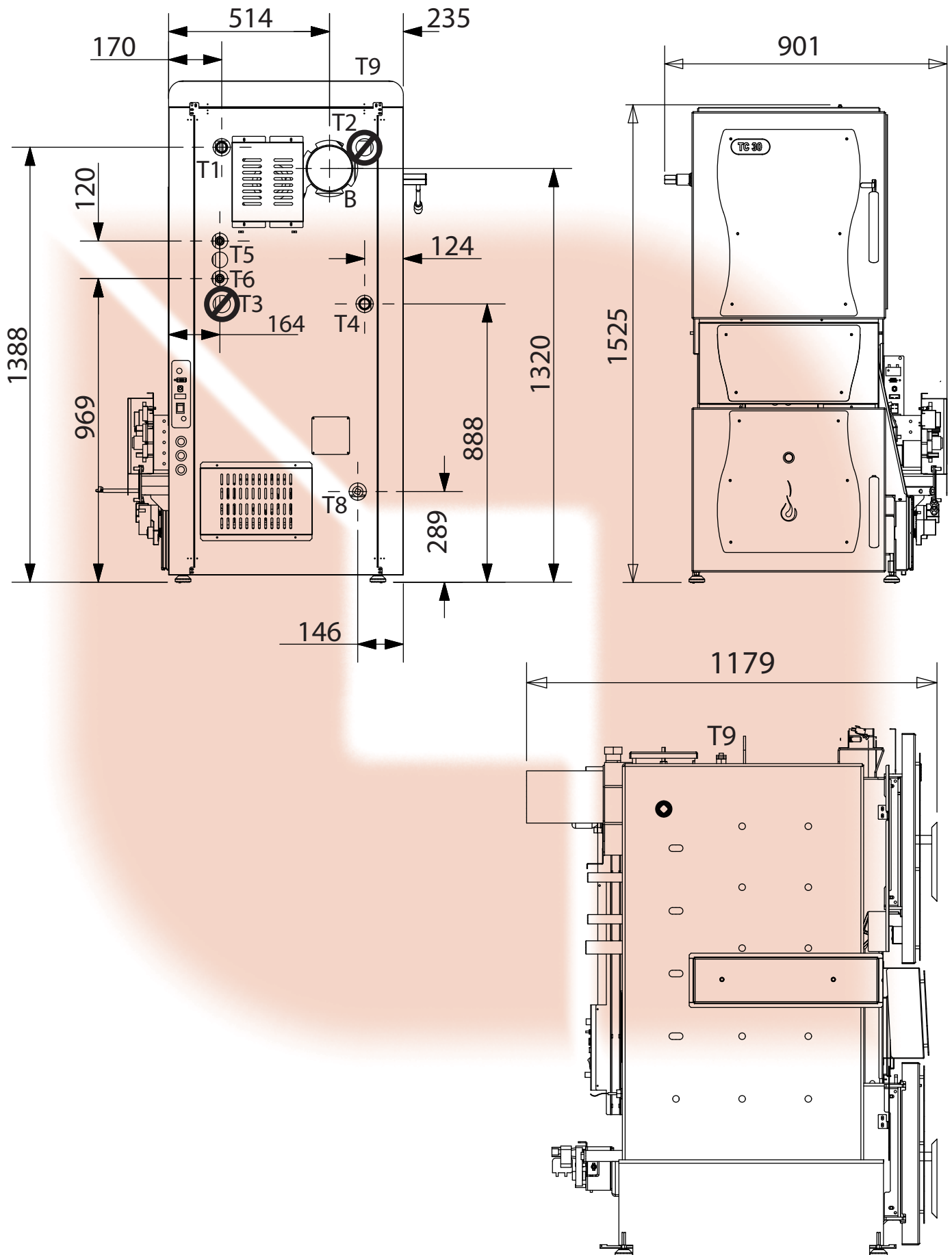


EXTRAFLAME S.p.A.

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T1	MANDATA/USCITA CALDAIA	Ø 1"
	BOILER FLOW/OUTLET	
	REFOULEMENT/SORTIE CHAUDIERE	
	KESSEL-VORLAUF/AUSGANG	
	IDA/SALIDA DE LA CALDERA	
T2	RACCORDO TAPPATO - NON UTILIZZARE!	
	FITTING BLOCKED - DO NOT USE	
	RACCORD BOUCHÉ - NE PAS UTILISER !	
	VERSCHLOSSENER ANSCHLUSS - NICHT BENUTZEN!	
	RACOR TAPADO - ¡NO UTILIZAR!	
T3	RACCORDO TAPPATO - NON UTILIZZARE!	
	FITTING BLOCKED - DO NOT USE	
	RACCORD BOUCHÉ - NE PAS UTILISER !	
	VERSCHLOSSENER ANSCHLUSS - NICHT BENUTZEN!	
	RACOR TAPADO - ¡NO UTILIZAR!	
T4	RITORNO/INGRESSO CALDAIA	Ø 1"
	BOILER RETURN/INLET	
	RETOUR/ENTRÉE CHAUDIÈRE	
	KESSEL-RÜCKLAUF/EINGANG	
	RETORNO/ENTRADA DE LA CALDERA	
T5 - T6	ATTACCHI SCAMBIATORE DI SICUREZZA D.S.A.	Ø 3/4"
	D.S.A. SAFETY HEAT EXCHANGER CONNECTIONS	
	RACCORDS ÉCHANGEUR DE SÉCURITÉ D.S.A.	
	ANSCHLÜSSE SICHERHEITSWÄRMETAUSCHER D.S.A.	
	CONEXIONES INTERCAMBIADOR DE SEGURIDAD D.S.A.	
T8	SCARICO ACQUA CALDAIA	Ø 3/4"
	BOILER WATER DRAIN	
	VIDANGE EAU CHAUDIÈRE	
	KESSEL-WASSERABLAUF	
	DESCARGA DE AGUA DE LA CALDERA	
T9	ATTACCO POZZETTO SONDA SCAMBIATORE SICUREZZA	Ø 1/2"
	SAFETY EXCHANGER PROBE SUMP CONNECTION	
	RACCORD PUISARD SONDE ÉCHANGEUR SÉCURITÉ	
	TAUCHHÜLSEN-ANSCHLUSS SONDE SICHERHEITSWÄRMETAUSCHER	
	CONEXIÓN DEL REGISTRO DE SONDA DE INTERCAMBIADOR DE SEGURIDAD	
B	CONDOTTO ESPULSIONE FUMI	Ø 150
	FLUE GAS EXHAUST PIPE	
	CONDUIT EXPULSION FUMÉES	
	RAUCHABZUGSLEITUNG	
	CONDUCTO DE EXPULSIÓN DE HUMOS	

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THE FUEL

THE PELLETS

Pellets are realised by subjecting wood shavings i.e. the rejects of pure wood (without paint) sawmill, carpenter products and products from other activities connected to working and transforming wood, to very high pressures.

This type of fuel is absolutely ecological as no glues are used to hold it together. In fact, the compactness of the pellets is guaranteed through time by a natural substance that is found in wood: lignite.

As well as being an ecological fuel, as wood residues are made the most of, the pellet also has technical advantages.

Pellet density is 650 kg/m^3 and water content equal to 8% of its weight. For this reason it is not necessary to season the pellet to obtain a sufficiently adequate heat yield (on the contrary, wood has 15% humidity after about 18 months' seasoning).

To guarantee combustion without problems, the pellet must be kept in a dry place. The diameter goes from a minimum of 5mm to a maximum of 8mm. Extraflame recommends using 6mm pellet.

PELLET FEEDING

During first product use, feed the pellet inside the tank, as illustrated in the figure, until completely full.



figure 2.1



figure 2.2

1. Open the tank lid



figure 2.3

2. Empty pellet inside the tank



It is important to periodically check the residue pellet inside the tank to avoid it finishing completely, which results in the boiler switching off.

WARNINGS

The use of expired pellets or any other unsuitable material can damage certain boiler components and jeopardise its correct functioning: this can determine the invalidity of the warranty and the relative responsibility of the manufacturer. Extraflame invites the user to use pellet in compliance with the described features and the normatives in force.

PELLET FEED ADJUSTMENT

The pellet used must comply with the features described by the Standard:

- ❖ Ö-Norm M 7135
- ❖ DIN plus 51731
- ❖ UNI CEN/TS 14961

* Extraflame recommends using pellet with 6 mm diameter.

Using pellet with features different to those listed above or for the features of the smokes evacuation plant, it is possible that the boiler presents alterations respect to its optimal functioning.



If the problem occurs after only a few months working, check that routine cleaning stated in the boiler booklet, has been carried out correctly.

The boiler is equipped with an adjustment system which intervenes directly on the pellet flow inside the burner, optimising the combustion process. There can be 2 types of problems correlated to the amount of fuel: lack of fuel or excess fuel.

Lack of fuel ⇒ the pellet is burnt too quickly, preventing the formation of an homogenous base inside the burner. The boiler may not be able to develop the declared power.

Excess fuel ⇒ the pellet is not burnt completely, continuing to build up inside the burner. The boiler may excessively overheat or create blocking problems.

The regulation to be performed is a percentage. Therefore a modification of this parameter will lead to a proportional variation of all boiler feeding speeds.

Controls procedure:

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the **"USER MENU"**.
- ❖ Select **"PELLET ADJUST MENU"** using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.

The value **"00"** will appear on the display: keys 4(-) and 5(+) can be used to adjust the percentage increase/decrease desired by 5 points per time (the parameter can be varied with a maximum travel from -50 to +50).

Increase/decrease the percentage value by 5 points and try the boiler with the new calibration for at least 2 hours.

- ❖ If combustion improves but is not yet optimal, act as previously for a further 5 points. Repeat the operation until the problem is solved.
- ❖ If combustion worsens, act in reverse order in the adjustment.

When the adjustment has been made, press button 1(esc) to confirm and escape.

WOOD

The prescribed fuel is wood, dry, pieces with 80-150mm diameter, seasoned for at least 2 years, containing 12-20% humidity, with heat power of 15-17 MJ/kg and logs about 330m long.

The fuel must be fed in neatly in order to form a wood stack as uniform as possible, avoiding air spaces and which allows natural sliding towards the brazier once fuel is consumed. During every feed, check for air chambers between the logs intervening with the appropriate provided tool to eliminate them.

Maximum performance and boiler duration is achieved using wood seasoned for at least 2 years. The interdependence between the contained water and the fuel heat power is indicated in the following table. The wood useful energy volume significantly decreases compared to the quantity of water.

% OF HUMIDITY	HEATING POWER kcal/kg	CORRECTIVE FACTOR
15	3490	1
20	3250	0,93
25	3010	0,86
30	2780	0,79
35	2540	0,72
40	2300	0,65
45	2060	0,59
50	1820	0,52

TYPE OF WOOD	Heating power for 1 kg		
	kcal	kJoule	kWh
Fir	3900	16250	4,5
Pine	3800	15800	4,4
Birch	3750	15500	4,3
Oak	3600	15100	4,2
Beech	3450	14400	4

WARNINGS!!!



The use of expired fuel or any other material, damages the functions of your boiler and can determine the invalidity of the warranty and the annexed responsibility of the manufacturer.

FUNCTIONING REVERSE FLAME

Burning fuel with the traditional system defined "direct flame" whether it happens in a chimney, or thermo kitchen or boiler, all the fed fuel will burn together as it is covered by the flame, from the bottom upwards.

For this reason it will not be possible to make it last long as, if the combustive air is adjusted to a minimum, a combustion with low oxygen is obtained, with emission of smokes containing a high quantity of carbon monoxide (CO) with the consequent loss of performance for non-burning.

Whereas, by inserting an adequate quantity of air, the wood duration will depend on the pieces of the same and the potential of the hearth used.

It will also be very difficult to obtain an adequate insertion of combustive air to obtain a good combustion without using an excessive amount of air and, as known, it tends to lower the combustion performance due to the so called losses for sensible heat in the smoke.

These last two are determined by the fact that all combustive air inserted in the hearth which does not take part in the combustion, is however heated by the flame and escapes from the chimney taking a certain quantity of heat with it, which will therefore be wasted.

With regard to the real combustion, this will happen with a flame developing at a temperature of about 750-800°C to which certain substances contained in wood such as fir resin, larch, pine etc. will not be able to burn completely and will tend to form soot and tar, causing a progressive blocking of the flue.

In a "reverse flame" boiler, also called "total gasification" combustion happens with a completely different systems, such to almost completely avoid the inconveniences described previously.

The combustive air, subdivided in primary and secondary, is inserted through a fan which, if immediately



connected upstream of the smoke exhaust pipe (**VACUUM BOILER**) it will place the feeding chamber in depression, sucking in the smoke through a loophole which opens at the bottom of the same chamber.

Functioning is as follows: wood directly in contact with the coal will over-heat, immediately developing a gas as phenomenon of pyrolysis, the primary air inserted by the fan through appropriate openings will filter the wood pieces fed until the coal is reached, igniting these gasses and determining its partial combustion; in this way, a flame mainly composed of carbon monoxide which is a fuelling gas, is obtained.

The flame, in passing through the slot which communicates the feeding chamber with the lower chamber, is reached by the secondary air (again inserted by the fan) which completes the combustion.

During this phase, there is a notable increase in the flame temperature, which can exceed 1100°C, allowing all the substances to burn which, in a traditional system

would remain partially non-burned; also, the necessary excess air will be very reduced (about 20-30%) against more than 100% necessary in other systems, limiting to the maximum losses for sensible heat in the smoke.

Whereas, in the upper chamber, there will be hardly any flame as this is forced by the fan to go through the central slot, the pile of wood fed is not covered by the flame and does not catch fire as it would in a traditional system.

The wood is only consumed when it leans on the coal left by the previous combustion, therefore (purely theoretically) the pile could be indefinitely high as long as the boiler continuous to function connected to a plant which absorbs all its power without interruptions.

In fact, this situation, is only manifested in very rare cases, therefore, the load capacity is limited to allow only a few hours functioning.

By further increasing the autonomy, notable inconveniences would be caused as, at a certain point, once the request for heat on behalf of the heating plant ceases, the boiler should stop to avoid boiling therefore switching off the fan which introduces the combustive air; but even with the fan at a still, the wood left in the boiler would tend to ignite at the top, developing a certain quantity of gasses which would remain unburned depositing inside the feeding compartment and on the surfaces run by the smoke, the less volatile substances, forming tar scales which can, in certain cases, obstruct the same smoke passages.

The wood would be consumed anyhow, without its heat power being used, causing a drastic total performance reduction of the boiler; also, the smoke humidity would mainly remain inside the same boiler, condensing and causing, in the long run, its corrosion.

For this reason, the dimensioning must be carried out correctly to avoid long pause periods which, as we have seen, would cause notable inconveniences.

For no reason should the boiler be **OVERSIZED** respect to the plant requirement.

BOILER ADJUSTMENT



figure 3.1

Before igniting the boiler, it is necessary to set certain parameters by means of the control board.

SELECT THE DESIRED LANGUAGE ⇒ LANGUAGE MENU

In this section it is possible to select the desired language amongst those available:

- ❖ ITALIAN
- ❖ ENGLISH
- ❖ FRENCH
- ❖ DUTCH



Controls procedure:

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the “**USER MENU**”.
- ❖ Select “**LANG. MENU**” using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.
- ❖ Using buttons 4(-) and 5(+) select the desired language.
- ❖ Press button 1(esc) to confirm and escape.

SETTING CURRENT DAY AND TIME ⇒ CLOCK SET MENU

Inside this menu it is possible to set the current day, hours and minutes.

**Controls procedure:**

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the **"USER MENU"**.
- ❖ Select **"CLOCK SET MENU"** using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.

CLOCK SET 1 MENU ⇒ DAY CLOCK

Allows to use buttons 4(-) and 5(+) to set the current day.

To confirm and continue programming, press button 3 (menu/ok).

Press button 1 to escape (esc).

CLOCK SET 2 MENU ⇒ HOURS CLOCK

Allows to use buttons 4(-) and 5(+) to set the current hours.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

Press button 1 to escape (esc).

CLOCK SET 3 MENU ⇒ MINUTES CLOCK

Allows to use buttons 4(-) and 5(+) to set the current hours.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

Press button 1 to escape (esc).

FUEL CONFIGURATION

The Extraflame combi boiler allows to set the fuel to be used. The following settings are possible:

- ❖ **WOOD**
- ❖ **WOOD/PELLET**

WOOD: In this configuration the boiler will only work with wood. For further information refer to the *"Wood functioning cycle"* chapter.

WOOD/PELLET: In this configuration the boiler will work both with pellet and with wood. For further information refer to the *"Wood/pellet functioning cycle"* chapter.

**Controls procedure:**

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the **"USER MENU"**.
- ❖ Select **"BOILER CONFIGURATION"** using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.
- ❖ Using buttons 4(-) and 5(+) select the desired fuel.
- ❖ Press button 1(esc) to confirm and escape.

BOILER CONFIGURATION

The Extraflame boilers have the possibility to manage different external devices through the circuit board. One of these devices can be a gas boiler which is defined as **auxiliary boiler (AUX BOILER)**. It is called auxiliary as its functioning is managed by the circuit board of the biomass boiler or due to an exact choice on behalf of the user or due to a block of various nature (fuel exhaustion, an alarm, a manual or automatic switch-off given by the weekly programmer).

The boiler configuration allows to choose in which way to use the auxiliary boiler.

There are 3 possible settings:

- ❖ **BIOMASS BOILER**
- ❖ **BIOMASS / AUX**
- ❖ **AUX BOILER**

BIOMASS BOILER: Only the biomass boiler works with this configuration.

BIOMASS/AUX: With this configuration, the biomass boiler always has priority with respect to the auxiliary boiler. If for any reason (fuel exhaustion, any alarm except for **HIGH WATER TEMP** etc) the biomass boiler blocks and cannot restart its normal functioning, the auxiliary boiler is activated. The biomass boiler circuit board will supply power to the auxiliary boiler and will decide ignition/switch-off of the latter depending on the analysed requests of the various devices on the plant and connected to the circuit board (ex. domestic storage, puffer, etc...).

The ignition of the auxiliary boiler is always delayed by about 20 minutes.

Once the biomass boiler functioning is restored, the electronic board will again exclude the auxiliary boiler functioning. By switching off the biomass boiler through key 1, the auxiliary boiler also switches off.

AUXILIARY BOILER: With this configuration, the biomass boiler remains off but powered. In this way, the biomass boiler circuit board can supply power to the auxiliary boiler and will decide ignition/switch-off of the latter depending on the analysed requests of the various devices on the plant and connected to the circuit board (ex. domestic storage, puffer, etc...).

If the boiler is switched on and set on **BIOMASS BOILER** or **BIOMASS/AUX**, after having set **AUX BOILER** the biomass boiler will enter the **FINAL CLEANING** phase.

The ignition of the auxiliary boiler is always delayed by about 20 minutes.

To switch the auxiliary boiler off, act directly on the master switch of the same or set the **BIOMASS BOILER** or **BIOMASS/AUX**.



Controls procedure:

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the "**USER MENU**".
- ❖ Select "**BOILER CONFIGURATION**" using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.
- ❖ Press button 3 (menu/ok) again.
- ❖ Using buttons 4(-) and 5(+) select the desired boiler.
- ❖ Press button 1(esc) to confirm and escape.

TIMES CONFIGURATION ECONOMY PUFFER

The “Economy puffer” function maintains the puffer at lower temperatures compared to the technician puffer setting, respecting time periods decided by the final customer. The logical functioning is based on the principle to use the pellet only to maintain the puffer at lower temperatures than usual.

In a few words, the customer will use wood during the normal use of the boiler, with the puffer at higher temperatures (setting between 70°C and 78°C); whereas, during periods where he is unable to carry out loading, the boiler will use the pellet to maintain the puffer at a minimum, (setting between 40°C and 60°C).

example:

		puffer setting
time 18:00	wood loading	set puffer between 70° and 78°
time 12:00	economy puffer time period start	set puffer between 40° and 60°
time 07:00	economy puffer time period end	
time 07:30	wood loading	set puffer between 70° and 78°

With this example, the boiler will work for a lower puffer temperature set from 12:00 to 07:00.

For times outside the time period, the boiler will consider the original puffer setting, decided by the technician, independent of the type of fuel used.



**The “Economy puffer” functioning can only be used if the boiler is in Wood/Pellet mode.
The puffer set and economy puffer set can only be set by the authorised technician.
The “Economy puffer” function cannot be used with the boiler set in wood mode.
Should the boiler recognise a fuel obtained from wood, it will automatically deactivate the economy puffer set, considering the original puffer set.**



Controls procedure:

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the “**USER MENU**”.
- ❖ Select “**BOILER CONFIGURATION**” using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.
- ❖ Press button 3 (menu/ok) twice to access the time period activation times.

BOILER CONFIGURATION ⇒ ECO START TIME

Allows to set the start time of the time period using buttons 4(-) and 5(+).

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to BOILER CONFIGURATION.

Press button 1 to escape (esc).

BOILER CONFIGURATION ⇒ ECO STOP TIME

Allows to set the end time of the time period using buttons 4(-) and 5(+).

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

Press button 1 to escape (esc).

FUNCTIONING MODE SELECTION ⇒ SUMMER-WINTER MENU

In this section it is possible to select 2 different boiler functionings:

❖ **WINTER**

❖ **SUMMER**

To select the desired functioning, use buttons 4(-) and 5(+).

Press button 1(esc) to confirm and escape the menu.

Winter: in this functioning mode all devices present in the plant work regularly. The priority given to the devices is the following:

1. DOMESTIC HOT WATER STORAGE
2. HEATING PLANT (Radiators)
3. PUFFER

Summer: in this functioning mode the room thermostats relating to the heating plant (radiators) are always result satisfied: this means that the circuit board will never enable the circulation pumps (zone 1 and zone 2) relative to the heating plant except for the safety functions (if the temperature of the water inside the boiler exceeds 90°C, the pump in zone 1 is activated in order to remove the excess heat). As well as the areas, the request on behalf of any puffer is also inhibited: the boiler will only work to satisfy the request for domestic hot water.



If this mode is used with an instant exchanger do not use wood as fuel, only pellet!

**Controls procedure:**

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the "**USER MENU**".
- ❖ Select "**SUMMER-WINTER MENU**" using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.
- ❖ Using buttons 4(-) and 5(+) select the desired functioning.
- ❖ Press button 1(esc) to confirm and escape

DESIRED TEMPERATURES SETTING

The boiler allows to set the desired water temperature in different points of the plant.

There are 3 settings to adjust:

❖ **C.H. SET**

❖ **BOILER SET**

❖ **ECONOMY SET**

C.H. SET ⇒ allows to set the desired water temperature inside the boiler in case of request on behalf of the heating plant.

The set can be set from a minimum value of 65°C to a maximum of 80°C or the automatic mode can be selected. Setting a value between 65°C and 80°C, the boiler works to reach the desired temperature

decreasing the functioning power once nearing the set set; if the temperature exceeds the set set by at least 5°C (**boiler set + 5°C**) the boiler switches off displaying "**HOFF**" on the display and will wait for re-ignition until the temperature has decreased by at least 5°C below the set threshold (**boiler set - 5°C**).

The automatic function can only be activated after having connected and enabled the probe positioned outside the building. These operations must be carried out by authorised staff.

To select the automatic mode, set the temperature of the boiler set below 65°C until the writing "**AUTO**" appears on the display. In automatic mode, the boiler set adjusts automatically depending on the temperature read by the **EXTERNAL** probe (building external temperature): it has a maximum travel reading from +20 to -10°C which correspond to the boiler setting details from 65 to 80°C (ex. If the external temperature is -10°C the temperature set automatically sets at 80°C).

To move on to the subsequent setting press button 5.



This menu is reserved to the Extraflame S.p.A. after-sales assistance.

BOILER SET ⇒ allows to set the desired water temperature inside an external domestic hot water storage tank. The setting goes from a minimum value of 45 to a maximum value of 65 °C.

To move on to the subsequent setting press button 5(+).

ECONOMY SET ⇒ allows to set an economy threshold for the re-ignition of the boiler. This function becomes operative when the boiler is in an H-OFF state, that is, when the boiler water temperature exceeds by at least 5°C the boiler set. The setting goes from a minimum value of 30 to a maximum value of 60 °C or OFF. If the parameter is set on OFF the boiler will use the normal re-ignition set, that is, boiler set – 5°C. If set with a value between 30 and 60, the re-ignition will happen at that temperature and "ECONOMY T. STAND-BY" will appear on the display. To confirm and escape press button 1(esc).



Controls procedure:

- ❖ 2(set) ⇒ access the temperature set
- ❖ 4(-) and 5(+) ⇒ select the temperature set to be adjusted amongst those available:
 - ❖ **C.H. SET**
 - ❖ **BOILER SET**
 - ❖ **ECONOMY SET**
- ❖ 3(menu/ok) ⇒ access the selected set
- ❖ 4(-) and 5(+) ⇒ adjust the selected set
- ❖ 1(esc) ⇒ confirm and escape

WOOD/PELLET FUNCTIONING



figure 3.2

PELLET FUNCTIONING



figure 3.3

Button 4(-) allows to display the value read by the various probes which can be connected to the boiler.

Press button 4(-) once	Press button 4(-) twice
EXTERN.	UPP. PUFFER
BOILER/EXCHANGER	LOW. PUFFER
PELLET CONDUIT	SOLAR
LAMBDA PROBE	AUX C.HEAT.

The value read by the probes can be replaced with other digits:

--- ⇒ probe excluded

SHORT ⇒ closed contact or short circuit

OPEN ⇒ open contact or probe disconnected

To escape the probe reading press any button.

Button 5(+) allows to display the state of all inputs and outputs of the electronic board.



This menu is reserved to the Extraflame S.p.A. after-sales assistance.

POSITIONING SIDE HANDLE

As well as cleaning, the side handle located on the left side, allows to adjust the heat exchange of the boiler optimising the functioning mode.

The handle can assume 2 positions depending on the fuel used:

PRODUCT FUNCTIONALITY

Extraflame S.p.A. has foreseen two functionings for the combined boiler, in relation to the type of fuel selected: **WOOD** and **WOOD/PELLET**.

Before switching the boiler on the following points must be verified:

- ❖ Check the fuel feed:
- ❖ The combustion chamber and the ash drawers have to be free and clean.
- ❖ The burners must be completely free and clean.
- ❖ Check that the power supply cable is connected correctly.
- ❖ The bipolar switch in the rear part must be positioned on 1.

WOOD FUNCTIONING CYCLE

In this configuration the boiler will be manually ignited with wood following the procedure described below.

1. Prepare a quantity of wood made up of logs and twigs inside the wood feeding compartment equal to about a fourth of its total capacity so as to form a uniform bed near the burner, avoiding empty spaces between the various pieces.
2. With the aid of materials like fire starters and paper, cause a flame.



It is forbidden to use flammable liquids to ignite the boiler. Extraflame S.p.A. does not assume any responsibility with regard to damages to objects and/or persons.

3. Hermetically close both doors.



From the moment the flame has been sparked off, the front door will have to remain closed until the boiler has completely cooled down.

4. Press button 1(esc) for 3 seconds: the boiler will pass to “**IGNITION**” and there it will remain until it will have recognised the presence of flame.
5. Once recognised the flame, the boiler will pass to “**START WOOD**”, phase which allows the boiler to uniform fuelling.
6. Once this phase is completed, the boiler will pass to work phase: at this point, open the upper door without removing the safety catch, wait about 30 seconds, then open completely. Complete feeding the wood, paying particular attention to the layout, as uniform as possible, of the fuel, avoiding empty spaces between the pieces.



The feeding operations must be carried out in a maximum time of about 10 minutes at the end of which the boiler will display “CLOSE DOOR”. During this phase, an acoustic signal indicates the opening of the door: first intermittently, then continuously. If feeding requires more time, close the door and open it again.

During the work phase, the boiler will heat the water inside to satisfy the heat requirements deriving from the plant.

NOTE: *The boiler works varying on 5 different power levels which cannot be adjusted as the adjustment is automatic in relation to the set temperature set.*

During the work phase, the boiler works to reach the desired temperature, decreasing the functioning power as it nears the set set; if the temperature exceeds the set set by at least 5°C (**c.h. set + 5°C**), the boiler switches off displaying “**HOFF WOOD! DONT OPEN THE DOORS**” on the display and will wait for re-ignition until the temperature has not decreased by at least 5°C below the set threshold (**c.h. set - 5°C**).



In case of request on behalf of the domestic storage or the puffer, the boiler reaches a temperature which can result higher respect to the set set by the user.

During the "**HOFF WOOD**" phase, the fuelling is choked, reducing the air intake. This causes un-burning and dirtying of the heat exchanger. In order to guarantee good boiler functioning, it is useful to feed quantities of wood depending on the heat requirements of the building, in order to limit as much as possible the state of "**HOFF WOOD**".

7. The switching off of the boiler will happen automatically at the end of fuelling displaying "**WOOD LOADING END**" on the display".

WOOD/PELLET FUNCTIONING CYCLE

During this mode, the following information will be displayed alternately:

- ❖ FUEL SETTING
- ❖ ACTIVE FUEL
- ❖ FUNCTIONING STATE

Fuel setting ⇒ "**WOOD/PELLET**"

Active fuel ⇒ "**ACTIVE WOOD**" if working with wood, "**ACTIVE PELLET**" if working with pellet.

Functioning state ⇒ See description below relating to the active fuel.

PELLET CYCLE

1. Press button 1 (esc) for 3 seconds: "**START**" will be displayed on the display. In this phase, the appliance cleans the burner through a shaking of the grate which acts as bottom.

2. Following, the boiler will pass to "**IGNITION**": in this phase, the appliance feeds the pellet inside the burner to start the fuelling process.

NOTE: The first time the product is used, even if the tank is full of pellet, there is the possibility that in the first ignition cycle the pellets are not fed. This is because the pellet feed worm screw is empty. If at the end of the first cycle the boiler still has not developed a flame, it will start from the **START** phase. If at the end of the second cycle the boiler still has not developed a flame, the following writing will appear on the display "**ALARM NO FLAME**". In this case press button 1 (esc) for 3 seconds until "**FINAL CLEANING**" appears on the display, remove and restore current from the rear master switch and repeat steps 1 and 2.

3. If points 1 and 2 have been carried out correctly, the moment the boiler develops the flame, the boiler will pass to "**BURNING**", flame settling phase before starting work.

4. Completed the burning phase, the boiler will pass to "**WORKING**" phase, where the boiler will heat the water inside to satisfy the heat requirements deriving from the plant.

NOTE: The boiler works varying on 5 different power levels which cannot be adjusted as the adjustment is automatic in relation to the set temperature set. During the work phase, the boiler works to reach the desired temperature, decreasing the functioning power once nearing the set set; if the temperature exceeds the set set by at least 5°C (**c.h. set + 5°C**), the boiler switches off displaying "**H-OFF**" (automatic switch-off) and will wait for the re-ignition until the temperature has decreased by at least 5°C below the set threshold (**c.h. set - 5°C**).



In case of request on behalf of the domestic storage or the puffer, the boiler reaches a temperature which can result higher respect to the set set by the user.

5. The last phase is the switch-off, which can be realised through manual control, button 1(esc) for 3 seconds, or through the weekly programmer. The display displays **"FINAL CLEANING"** and the boiler stops definitely. Once completely cooled off, it displays **"OFF"**.

SWITCHING PELLET ⇨ WOOD

If the boiler detects the ignition of wood, it switches from pellet to wood:

- ❖ Function **"START WOOD"** is activated which blocks the pellet feeding and completely burns the pellet residue in the burner.
- ❖ After a pre-established time, the boiler passes to **"WOOD"** mode, with its normal functioning, described in the previous paragraph.

SWITCHING WOOD ⇨ PELLET

If the boiler detects a decrease in temperature correlated at the end of the wood feed, **"CHANGE TO PELLET"** will be displayed on the display. In this phase it is possible to proceed as follows:

- ❖ Feed the wood to continue the normal wood functioning
- ❖ Wait for a further cooling of the boiler and the automatic passing to pellet which will start from **"START"**, previously described.

During wood functioning it is possible to exclude/restore an eventual pellet re-ignition by pressing button 1(esc). In case of exclusion, **"PELLET EXCLUDED"** will appear on the display, and in case of feed exhaustion, the boiler will pass to **"WOOD LOADING END"**.

CHRONO SET MENU



Controls procedure:

- ❖ Press key 3 (menu/ok) to access the menu.
- ❖ Press key 3 (menu/ok) to access the “**USER MENU**”.
- ❖ Select “**CHRONO SET MENU**” using buttons 4(-) and 5(+) and press key 3 (menu/ok) to confirm.

The boiler is equipped with a weekly programmer which allows to program 3 time spans within a day to use every day of the week. The ignition and switch-off times must be within the arc of one day, from 0 to 24 and not over several days:

E.g. switch-on 07:00 / switch-off 18:00 OK
 switch-on 22:00 / switch-off 05:00 ERROR
 switch-on 22:00 / switch-off 23:59 OK

PARAMETER	FUNCTION	KEYS ADJUSTMENT	DISPLAY	CONFIRMATION KEY
CHRONO ON-OFF	Act./deact. weekly programmer	4(-) o 5(+)	ON/OFF	3(menu/ok)
START PROGRAM 1	Time 1st switch-on	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
STOP PROGRAM 1	Time 1st switch-off	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
DAYS ON 1	Consents for 1st switch on/off for various days	4(-) o 5(+)	ON/OFF Monday ... ON/OFF Sunday	3(menu/ok)
START PROGRAM 2	Time 2nd switch-on	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
STOP PROGRAM 2	Time 2nd switch-off	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
DAYS ON 2	Consents for 2nd switch on/off for various days	4(-) o 5(+)	ON/OFF Monday ... ON/OFF Sunday	3(menu/ok)
START PROGRAM 3	Time 3rd switch-on	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
STOP PROGRAM 3	Time 3rd switch-off	4(-) o 5(+)	OFF or from 00:00 to 23:50	3(menu/ok)
DAYS ON 3	Consents for 3rd switch on/off for various days	4(-) o 5(+)	ON/OFF Monday ... ON/OFF Sunday	1(esc)

Let's suppose that the weekly programmer function is to be used and 3 time periods are to be used in the following way:

1st time span: from 08:00 to 12:00 every day of the week excluding Saturday and Sunday

2nd time span: from 15:00 to 22:00 only Saturday and Sunday

3rd time span: not used

Let's set the weekly programmer.

CHRONO ON-OFF

Use buttons 4(-) or 5(+) to activate the weekly programmer by setting the value at **ON**.

To confirm and continue programming, press button 3 (menu/ok).

START PROGRAM 1

Use buttons 4 or 3 to set “**08:00**”, which corresponds to the switch-on time of the 1st time span.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

STOP PROGRAM 1

Use buttons 4(-) or 5(+) to set “**12:00**”, which corresponds to the switch-on time of the 1st time span. To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.



DAYS ON 1

Activate the first time span for every day of the week except Saturday and Sunday.

To do this use keys 4(-) and 5(+) in the following way:

- a. key 5(+) scroll the various days
- b. key 4(-) enable/disable (**ON/OFF**) the 1st time span for that day

Example:

DAY	INITIAL VALUE	KEY 4(-) FUNCTION	FINAL VALUE	KEY 5(+) FUNCTION
MONDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
TUESDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
WEDNESDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
THURSDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
FRIDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
SATURDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
SUNDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

START PROGRAM 2

Use buttons 4(-) or 5(+) to set "15:00", which corresponds to the switch-on time of the 2nd time span.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

STOP PROGRAM 2

Use buttons 4(-) or 5(+) to set "22:00", which corresponds to the switch-off time of the 2nd time span.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

DAYS ON 2

Enable the 2nd time span only for Saturday and Sunday.

To do this use keys 4(-) and 5(+) in the following way:

- a. key 5(+) scroll the various days
- b. key 4(-) enable/disable (**ON/OFF**) the 1st time span for that day

Example:

DAY	INITIAL VALUE	KEY 4(-) FUNCTION	FINAL VALUE	KEY 5(+) FUNCTION
MONDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
TUESDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
WEDNESDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
THURSDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
FRIDAY	OFF	OFF → ON and vice-versa	OFF (time deactivated)	Go to next day
SATURDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day
SUNDAY	OFF	OFF → ON and vice-versa	ON (time span active)	Go to next day

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.



START PROGRAM 3

Set at "**OFF**" using buttons 4(-) or 5(+), which is found before the time "**00:00**", in a way to disable the switch-on of the 3rd time span.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

STOP PROGRAM 3

Set at "**OFF**" using buttons 4(-) or 5(+), which is found before the time "**00:00**", in a way to disable the switch-off of the 3rd time span.

To confirm and continue programming, press button 3 (menu/ok).

Press button 2 (set) to go back to the previous parameter.

DAYS ON 3

At this point the values introduced in this parameter have no value as the ignition and switch-off of the 3rd time span have been disabled.

Press button 1(esc) to confirm and escape the programming.

Press button 2 (set) to go back to the previous parameter.

VARIOUS BOILER FUNCTIONS

CHECK-UP

This function is carried out every time current is removed and re-applied from the boiler in the "OFF" status. The check-up checks all the devices constituting the boiler.

PUMPS ANTI-FREEZE CYCLE

This function avoids the plant water freezing when the boiler is switched off. When the temperature read by some of the boiler probes falls below a determined temperature value the circuit board will activate all of the outputs relative to the pumps/electro-thermal controls.

Pumps/electro-thermal controls will stop when the temperature rises.

PLANT ANTI-FREEZE CYCLE

If the boiler anti-freeze function is not sufficient to stop the lowering of the water, the system anti-freeze function activates, which ignites the boiler. The boiler will remain switched on until a determined temperature level has been reached.

SAFETY AREA 1

This function activates if the water temperature inside the boiler exceeds 87°C: even if there is no request for heat, the electro-thermal pump/control relating to area 1 is enabled.

The stopping of the electro-thermal pump/controls will happen when the temperature decreases.

It is **fundamental** that the installer foresees the presence of an important heating area in the home (AREA 1) in which at least one radiator is never closed.

ANTIBACTER CYCLE

This function only activates with boiler on and allows to neutralise the bacteria of Legionnaire's disease. This bacteria in the water reacts differently in relation to the water temperature:

- ❖ Below 20°C the Legionnaire's disease can live but in quiescence condition (it does not multiple but it does not die).
- ❖ Between 20 and 50°C the Legionnaire's disease multiplies, with particularly high speed between 35 and 46°C, therefore right in the temperature area of normal domestic hot water use.
- ❖ Between 50 and 55°C the Legionnaire's disease can live but in lethargy condition (it does not multiple but it does not die).
- ❖ Between 55 and 60°C the Legionnaire's disease is eliminated in about 6 hours.
- ❖ Between 60 and 66°C the Legionnaire's disease is eliminated in about 35 minutes.
- ❖ Above 66°C the Legionnaire's disease is eliminated in about 3 minutes.

To remedy this problem, if when the boiler is switched on the temperature of the water inside the domestic storage is lower than 65°C for a period longer than 48 hours, the domestic storage water is heated (70°C for at least 5 minutes) even in the absence of heat request, to neutralise the bacteria.

SAFETY DEVICES

FLUE EXHAUST BREAKAGE

If the exhaust stops, the electronic board blocks the functioning and sends the boiler in alarm.

PELLET FEED MOTOR BREAKAGE

If the motor reducer stops, the boiler continues to function until the minimum cooling level is reached.

NO IGNITION

If a flame is not developed during the ignition phase, the appliance automatically attempts ignition again.

If no flame develops also in this case, the appliance will signal ignition failure alarm on the display.

TEMPORARY POWER CUT

If the lack of current is lower than 10 seconds, the boiler ignores everything and starts its normal functioning in the state it was in. If the time interval is higher than 10 seconds, the machine will display the "BLCK-OUT COOLING" alarm (see display table).

ELECTRIC SAFETY

The boiler is protected against strong current changes by a master fuse that is found in the rear part of the boiler. (12.5 A 250V Delayed).

PELLET TEMPERATURE SAFETY DEVICE

If there is overheating inside the tank, this device blocks the pellet feed motor; restoration is manual and must be performed by an authorised technician who will check the cause of the overheating.

PELLET PIPE THERMAL SAFETY

If the thermal sensor of the pellet pipe detects an increase in the temperature in the same pipe, it activates a pipe cleaning cycle.

MECHANICAL SAFETY WITH FIRE-CUT ROTARY VALVE

At the base of the feed tank there is a fire-cut rotary valve which prevents an eventual flame propagation to the pellet tank.

DOOR OPENING SAFETY

The boiler doors must never be opened during functioning or when the boiler is still hot!! The opening of the doors during functioning causes the boiler to block with the relative signal on the display.

WATER BOILING SAFETY DEVICE

In case there is scarce amount of water in the boiler or insufficient heat absorption on behalf of the plant due to circulation block, overheating until boiling point of the same water may be caused. A manual re-arm thermostat block the pellet feed motor. The manual restoring of the thermostat is carried out by pressing the buttons located at the rear of the boiler and covered by spin on caps.

The intervention of the after-sales centre for boiler over heating is not covered by warranty in case the machine has not been connected to an adequate storage, with volume of at least 1000 litres (see "WARRANTY" chapter).



figure 7.1

SAFETY DEVICES FOR OPEN VESSEL PLANT

According to the UNI 10412-2 (2006) Standard, the plants with open expansion vessel must have:

- ❖ Open expansion vessel
- ❖ Safety pipe
- ❖ Feed pipe
- ❖ Pump control thermostat (excluded for natural circulation plants)
- ❖ Circulation system (excluded for natural circulation plants)
- ❖ Acoustic alarm activation device
- ❖ Acoustic alarm
- ❖ Temperature indicator
- ❖ Pressure indicator
- ❖ Automatic circuit breaker switch (block thermostat)

The temperature safety sensors must be in place on the machine at a distance no greater than 30 cm from the flow connection.

Whenever the generators lack a device, those missing can be installed on the thermo product flow pipe, within a distance no greater than 1m from the machine.

SAFETY DEVICES FOR CLOSED VESSEL PLANT FOR MANUAL AND AUTOMATIC-MANUAL FEED APPLIANCES.

Plants with closed expansion vessel must be equipped with:

- ❖ Safety valve
- ❖ Heat discharge valve or thermal safety discharge (positive safety)
- ❖ Closed expansion vessel
- ❖ Pump control thermostat
- ❖ Acoustic alarm activation thermostat
- ❖ Acoustic alarm
- ❖ Temperature indicator
- ❖ Pressure indicator
- ❖ Circulation system

Temperature safety sensors must be in place on the machine at a distance no greater than 30 cm from the flow connection of the generator.

Whenever the generators lack a device, those missing can be installed on the generator flow pipe, within a distance no greater than 1 metre from the machine.

Domestic type heating appliances with manual or manual-automatic feed inserted in closed vessel heating plants, must be equipped with an internal cooling circuit prepared by the appliance manufacturer, activated by a thermal safety valve which does not require auxiliary energy and such to guarantee that the limit temperature set by the Standard is not exceeded. The connection between the power supply unit and the valve must be free from interceptions; interception is allowed if the valve is activated by a specific tool. The pressure upstream from the cooling circuit must be at least 1.5 bar.

MOUNTING OF HEAT DISCHARGE VALVE (NOT SUPPLIED)

The solid fuel heat generators must be installed with safety devices determined by laws in force. For this purpose, the boiler TC 30 is equipped with a safety exchanger.

The safety exchanger must be connected on one side to the water network (A) and the other to the drainage network (C). The heat discharge valve (compulsorily supplied by the installer for closed vessel plant for manual and automatic-manual feeding appliances), which bulb will be connected to attachment B, once the safety temperature is reached enables the cold water to enter the copper coil contained in the boiler, discharging the thermal excess through pipe C towards a conveniently installed discharge. The pressure upstream from the cooling circuit must be at least 0.15 MPa (1.5 bar).



figure 7.2

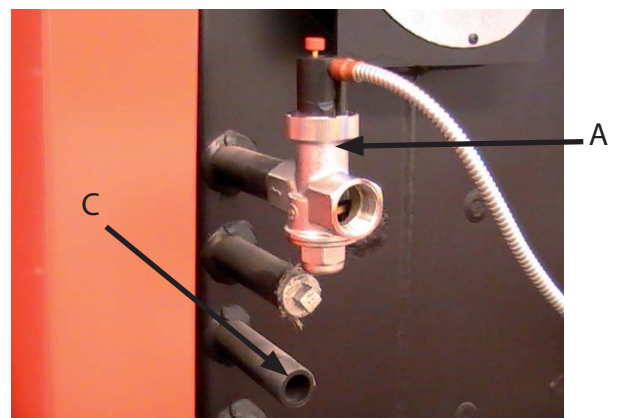


figure 7.3

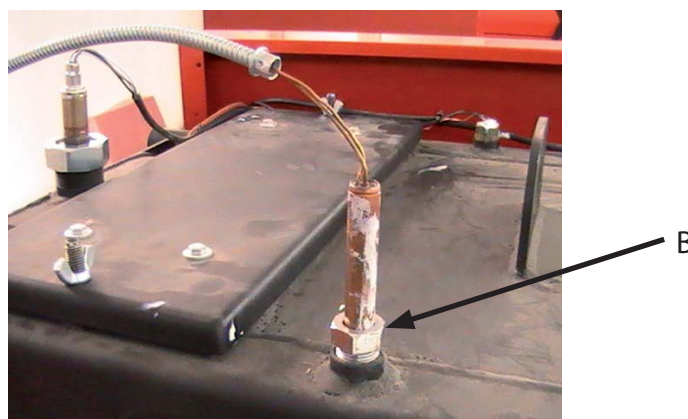


figure 7.4

AUTOMATIC THERMOSTATIC VALVE

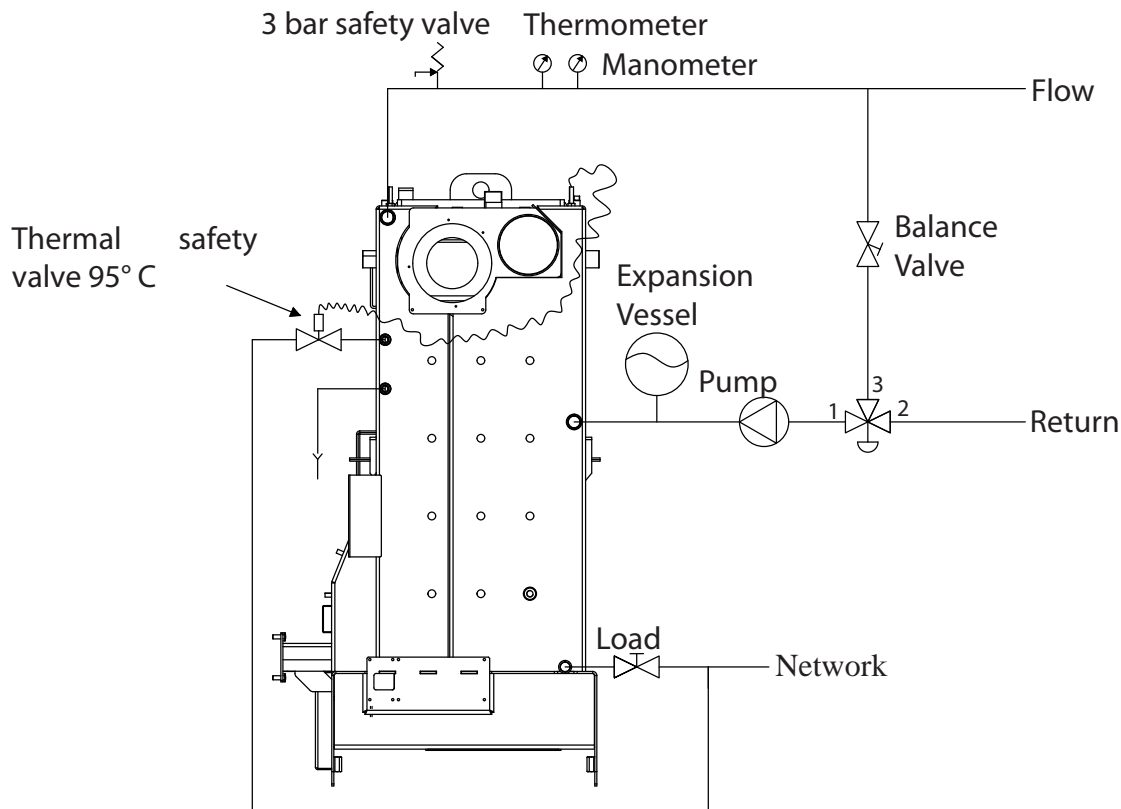


figure 7.5

The automatic thermostatic mixing valve finds applications in solid fuel boilers as it prevents cold water return in the exchanger.

Routes 1 and 3 are always open and, together with the pump installed on the return, they guarantee water circulation inside the biomass boiler exchanger.

A high return temperature allows efficiency improvement, reduces formation of smoke condensation and prolongs the boiler life span.

Valves on the market have different calibrations. Extraflame advises use of model 55°c with 1" hydraulic connections. Once the valve calibration temperature is reached, route 2 is opened and the boiler water goes to the system via the flow.



Lack of installation of the device voids the heat exchanger warranty (see "WARRANTY" chapter).

INSTALLATION AND SAFETY DEVICES

Installation, respective plant connections, commissioning and correct functioning check, must be carried out by professionally authorised staff (M.D. 22 January 2008 nr. 37), in compliance with the regulations in force, both national and regional, as well as with these instructions.



Extraflame S.p.A. declines all responsibility for damages to objects and/or persons caused by the plant.

BOILER CLEANING

Before carrying out any maintenance operation, the boiler must be in “**OFF**” state and completely cold. At this point, remove power supply to the boiler by directly acting on the rear switch.

Never discharge the water from the plant, even partially, in order to avoid malfunctioning. Periodically check the good functioning and integrity of the pipe and/or smoke exhaust device.

In case of work or maintenance of structures located near smoke pipes and/or smoke exhaust devices and their accessories, switch off the appliance and, once completed work, have the efficiency checked out by professionally qualified staff.

Do not clean the boiler and/or its parts with easily flammable substances (ex. petrol, alcohol, etc...).

Do not leave containers of flammable substances in the room where the boiler has been installed.

Do not clean the thermal control unit whilst the boiler is working.

At the end of every heating period, it is necessary for the boiler to be inspected by professionally qualified staff in order to maintain the plant perfectly efficient.

An accurate maintenance is reason for savings and safety, in fact the presence of soot and scales on the exchange walls, reduce boiler efficiency and do not allow to maintain the declared performances. If the power supply cable is damaged, it must be replaced by authorised after-sales assistance.

DAILY CLEANING

The use of the lever located on the left side of the boiler, guarantees good functioning of the same avoiding the forming of layers of ash which opposes to the normal turning of smoke.

For this reason Extraflame recommends to repeat the movement indicated in the figures below at least 4/5 times a day.

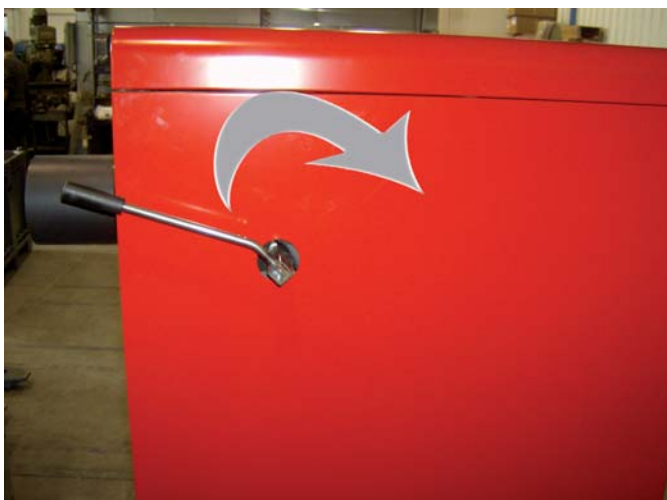


figure 8.1



figure 8.2

WEEKLY CLEANING

For a correct and optimal functioning of the boiler it is necessary to regularly carry out the cleaning operations described below:

1. Ensure the machine is switched off, that is “**OFF**” or “**WOOD LOADING END**”, and completely cold.
2. Open the upper door and remove the stainless steel burner from its location (figure 9.3).
3. With the irons provided, scrape the upper combustion chamber walls (figure 9.4).
4. Make the residue ash flow in the hole located at the centre of the refractory (figure 9.5).
5. Open the lower door and remove the inside deflector (figure 9.6).

6. Remove the large ash drawer (figure 9.7) and using the irons remove the ash which has fallen inside the refractory (figure 9.8).
7. Finally, extract the drawers and remove the ash (figure 9.9).

FORTNIGHTLY CLEANING

Completely empty the pellet tank and using the scraper, remove the residue wood shavings deposited near the rotary valve, as indicated in figure 9.10.



For correct functioning, the boiler must undergo routine maintenance by an authorised technician, at least once a year.



figure 8.3



figure 8.4



figure 8.5



figure 8.6



figure 8.7



figure 8.8

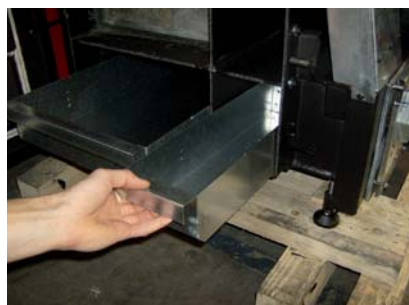




















figure 8.9



figure 8.10

BOILER DISPLAY TABLES

LUMINOUS INDICATORS		
Indicators	Description	Explanation
 A	It indicates functioning of the fumes expulsion motor.	It is on/off when the fumes exhaust motor is activated/deactivated. It flashes when the speed control probe (encoder) is disconnected.
 B	Indicates the consent for pump functioning.	It is on/off to indicate functioning consent/dissent for the circulation pump.
 C	Indicates the consent for pump/external electro-thermal controls functioning.	It is on/off to indicate functioning consent/dissent for the external electro-thermal pumps/controls.
 D	It indicates functioning of the pellet feed motor.	It is on/off when the pellet feed motor is activated/deactivated. The indicator switches on intermittently during normal functioning as the motor works with impulses.
	Indicates the presence of an alarm.	It is on in the presence of an alarm and is accompanied by the relative signal in the display, which identifies the cause. To reset the alarm, just hold key 1(esc) down for 3 seconds when the boiler is completely cold. It flashes when on the display appears "HOFF WOOD! DONT OPEN THE DOORS" .
	Not used.	Preparation for future applications.
T₁	Indicates the status of zone 1 thermostat.	The indicator is on/off when the external thermostat has to be satisfied/dissatisfied. If to be satisfied, i.e. heat request, activate the relative pump/electro-thermal controls for the circulation of water. The activation of this pump/electro-thermal control takes place also if the temperature of the water inside the boiler exceeds 90°C (overheating safety device). In this case the pump/electro-thermal control stops when the temperature of the water falls below 88°C.
T₂	Indicates the status of zone 2 thermostat.	The indicator is on/off when the external thermostat has to be satisfied/dissatisfied. If to be satisfied, i.e. heat request, activate the relative pump/electro-thermal control for the circulation of water.
	Indicates the functioning of the lambda probe.	The indicator is on/off when the lambda probe is activated/deactivated. It flashes when the automatic combustion optimisation function is active in wood function mode.
	Indicates the status of the serial port.	The indicator is on/off when the serial communication with the electronic board is disabled/enabled.
 E	Indicates deactivation of the ign-plug for automatic ignition.	It is off/on when the electrode is activated/deactivated.
 F	Not used.	Preparation for future applications.

	<p>Indicates the SUMMER mode.</p>	<p>In this functioning mode the room thermostats relative to the heating plant (radiators) are always satisfied: this means that the electronic board will never enable the circulation pumps (zone 1 and zone 2) relative to the heating plant except for the safety functions (if the temperature of the water inside the boiler exceeds 90°C, the pump in zone 1 is activated in order to remove the excess heat).</p>
	<p>Indicates the WINTER mode.</p>	<p>In this functioning mode all devices present in the plant work regularly.</p>
	<p>Indicates the request for heat by the heating system.</p>	<p>There are 3 possible indications: Dot off: There is no request for heat by thermostats T1 and T2; pumps/electro-thermal controls are off. Flashing dot: There is a request for heat by thermostats T1 and T2; pumps/electro-thermal controls are off as work conditions are not satisfied. Dot on: There is a request for heat by thermostats T1 and T2; pumps/electro-thermal controls are on.</p>
	<p>Indicates the request for heat by the sanitary storage.</p>	<p>There are 3 possible indications: Dot off: There is no request for heat by sanitary storage; pumps/electro-thermal controls are off. Flashing dot: There is a request for heat by thermostats sanitary storage; pumps/electro-thermal controls are off as work conditions are not satisfied. Dot on: There is a request for heat by sanitary storage; pumps/electro-thermal controls are on.</p>
	<p>Indicates the request for heat by the puffer.</p>	<p>There are 3 possible indications: Dot off: There is no request for heat by the puffer; pumps/electro-thermal controls are off. Flashing dot: There is a request for heat by the puffer; pumps/electro-thermal controls are off as work conditions are not satisfied. Dot on: There is request for heat by the puffer; pumps/electro-thermal controls are on.</p>
	<p>Indicates setting BIOMASS C.HEAT.</p>	<p>There are 2 possible indications: Dot off: This setting has not been selected. Dot on: This setting has been selected and the boiler is in a work or stand-by status for automatic re-ignition.</p>
	<p>Indicates setting BIOMASS / AUX</p>	<p>There are 2 possible indications: Dot off: This setting has not been selected. Dot on: This setting has been selected and the boiler is in a work or stand-by status for automatic re-ignition.</p>
	<p>Indicates setting AUX C.HEAT.</p>	<p>There are 2 possible indications: Dot off: This setting has not been selected. Dot on: This setting has been selected and the boiler is in a work or stand-by status for automatic re-ignition.</p>



DISPLAYS

Display	Description	Explanation
IGNITION	Indicates the pellet ignition phase.	Phase in which pellet combustion is triggered.
WOOD IGNITION	Indicates the wood ignition phase.	The wood mode has been selected and combustion was triggered manually.
PUMP ANTI-LOCK	Indicates the function that prevents pump block.	This function activates every 48 hours by activating all plant pumps/electro-thermal controls.
ANTI-FREEZE PLANT	Indicates the system anti-freeze function.	If the boiler anti-freeze function is not sufficient to stop the lowering of the water, the system anti-freeze function activates, which ignites the boiler. The boiler and the pump/electro-thermal controls will stay on until they reach a determined temperature level.
ANTI-FREEZE PUMP	Indicates the pump anti-freeze function.	If the temperature read by some of the boiler probes falls below a determined temperature value the circuit board will activate all of the outputs relative to the pumps/electro-thermal controls. Pumps/electro-thermal controls will stop when the temperature rises.
WAIT FOR CLEAN.	A new ignition is attempted when the boiler has just been switched off (normal switch-off or caused by an alarm).	When the stove switches off (normal or caused by an alarm) it is necessary to wait until it cools down completely, therefore clean the brazier. Leave the boiler completely off and cold for at least 15 minutes before switching it on again.
ECONOMY T. WAIT	The boiler is in " HOFF " status and the ECONOMY SET has been set	The re-ignition of the boiler is restricted by the temperature set in the " ECONOMY SET ".
ACTIVE WOOD	The boiler is using wood as fuel.	The wood/pellet mode has been selected and the boiler is using wood as fuel.
ACTIVE PELLET	The boiler is using pellets as fuel.	The wood/pellet mode has been selected and the boiler is using pellet as fuel.
START	Indicates the pellet combustion phase.	The wood/pellet mode has been selected and indicates the transition phase between the ignition and work using the pellets as fuel.
START WOOD	Indicates the wood combustion phase.	It indicates the transition phase between ignition and work using wood as fuel.
CHECK-UP	Indicates the CHECK-UP function performed by the boiler.	This function activates every time current is removed and re-applied from the boiler in the OFF status. The machine performs a particular analysis cycle to check the correct functioning of all of its parts.
CLOSE DOOR	The upper door results open for a period exceeding 10 minutes.	Check closure of the upper door.
ANTIBACTER CYCLE	Indicates the antibacterial function.	This function only activates with boiler on and allows to neutralise the bacteria of Legionnaire's disease.
CORRECTION O2	Indicates the combustion correction function.	This functioning cycle uses the value read by the lambda probe in order to correct imperfect combustion. At the end of the correction cycle the boiler will go back to normal functioning.
COR. PEL.	Indicates a high temperature on the fumes.	It is not in alarm conditions. The boiler intervenes automatically to lower the temperature level, continuing its normal work.
WOOD LOADING END	Indicates the end of the wood.	Load the wood again and re-ignite the boiler.



HOFF OR HOFF WOOD! DONT OPEN THE DOORS	The water temperature has exceeded the set threshold by more than 5°C. The water has reached a temperature of 85°C.	On lowering of the water temperature (5° below the set threshold) the machine will re-start in automatic mode.
WORK	Indicates the normal functioning status of the boiler.	The boiler works using the pellet as fuel to satisfy all plant requests.
WORKING WOOD	Indicates the normal functioning status of the boiler.	The boiler works using the wood as fuel to satisfy all plant requests.
WOOD	Indicates that the wood mode has been selected.	The boiler must be ignited manually as it works exclusively with wood as fuel.
WOOD/PELLET	Indicates that the wood/pellet mode has been selected.	The boiler ignites automatically using pellets. During normal functioning it will continue to work with pellets until wood is loaded. Once the presence of wood is recognised the flow of pellets is blocked.
OFF	Indicates the off status of the boiler.	In this status the boiler is completely cold and waiting to be ignited; this can take place in different ways in relation to the boiler setting used.
CHANGE TO PELLETT	Indicates the wood feed has finished.	The boiler has been set in wood/pellet mode and the wood feed has been used up. If no more wood is loaded, the boiler will change automatically to using pellets as fuel.
PELLET EXCLUDED	Indicates that pellet re-ignition has been disabled.	The boiler has been set in wood/pellet mode and is working using wood as fuel. Through button 1(esc) it is possible to exclude an eventual pellet re-ignition in case the wood fuel finishes (the display will display " WOOD LOADING END ").
LOWER DOOR OPEN	The lower door is open.	Check closure of the lower door.
CONDUIT CLEANING	Indicates the pellet feed conduit cleaning function caused by a temperature increase inside the conduit.	Wait for the complete conduit cleaning cycle until the boiler returns to normal functioning. On the contrary, the boiler will display on the display " PELLET CONDUIT ALARM "(see alarms table).
AUTOMATIC CLEANING	Indicates the boiler automatic cleaning function.	This function envisions a complete cleaning cycle that includes switch off and switch on of the boiler.
FINAL CLEANING	The boiler was switched off through button 1(esc).	At the end of this cleaning and cooling cycle the boiler will pass to the OFF status.
COOLING BLACK OUT	No current on the main power supply for a period longer than 10 seconds.	After the complete switch-off cycle the boiler will re-ignite automatically.
SAFETY Z1	Indicates the safety for removal of heat accumulated in the boiler.	This function activates if the water temperature inside the boiler exceeds 87°C: even if there is no request for heat, the electro-thermal pump/control relating to area 1 is enabled. Stop occurs when the temperature drops.
AUTO BLOW	Indicates the burner automatic blow function.	The burner automatic blow is accompanied by the on the display. At the end of the cleaning cycle the boiler will go back to normal functioning.
START	Indicates the preparation phase for boiler ignition.	The boiler must be set in wood/pellet mode. From the OFF status by pressing key 1(esc) this preparation phase is engaged for boiler ignition.
TIMER XX XXX	Timer reserved to the after-sales service.	Timer reserved to the after-sales service.



ALARMS

Display	Reason	Solution
PELLET CONDUIT ALARM	Indicates overheating of the pellet feed conduit.	In the case of pellet loading conduit overheating the boiler initially intervenes by starting the “ CONDUIT CLEANING ” cycle. If this is not sufficient, after a period of about 10 minutes the boiler will block, showing “ PELLET CONDUIT ALARM ” on the display. During this alarm, do not: <ul style="list-style-type: none"> ❖ Open the upper door ❖ Open the lower door ❖ Open the pellet feed-box lid At this point re-attempt the ignition phase: if the alarm remains blocked on the display not allowing any operation, it means that the conduit is not cool enough. Wait for the complete cooling of the conduit and repeat the ignition phase.
ALARM TRAPDOOR BLOCK	Indicates a positioning error of the burner cleaning trapdoor.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM OXYGEN KO	Error detected by the lambda probe on lack of oxygen for combustion. Lambda probe connection or power supply problems.	Check that the pellet used is in compliance with the features described in “ THE FUEL ” chapter. Progressively reduce the pellet flow (see “ PELLET ADJUST MENU ”). Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM HIGH WATER	Indicates excessive water temperature. Problems with water circulation. Insufficient plant pressure. Presence of air in the system.	Check the plant pressure. Bleed the air from the plant. Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM NO FLAME	The pellet feed-box is empty. The upper and lower doors are not closed correctly. Problems relative to the ign-plug. Air intake pipe problems. Problems on the fumes expulsion pipe. The combustion chamber is dirty. Pellet feed calibration inadequate.	Check for the presence of pellets in the feed-box. Check hermetic closure of the doors. Check that the air vent and the fumes exhaust are not blocked or unsuitable. Check cleanliness of the combustion chamber. Adjust pellet flow (see “ PELLET ADJUST MENU ”). Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM FUMES FAN	The fumes motor is blocked. Speed control probe problems (encoder). Fumes motor power supply problems.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM SMOKES PROBE BROKEN	The fumes probe is broken. The fumes probe is disconnected from the board.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.



ALARM PROBE BROKEN	Indicates a fault, incorrect connection or activation of one of the boiler probes.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM NO PELLETS	The pellet feed-box is empty. The motor reducer does not feed pellets. Problems on the fumes expulsion pipe. Air intake pipe problems. No pellet feed.	Check for the presence of pellets in the feed-box. Check that the air vent and the fumes exhaust are not inadequate. Adjust pellet flow (see " PELLET ADJUST MENU "). Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
LAMBDA BROKEN	Lambda probe fault detected during the boiler check-up.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM THERMAL SAFETY	Problem correlated to the bulb thermostats inside the boiler (feed-box 85°C and hot water 100°C).	Check the plant pressure. Bleed the air from the plant. Switch off the machine, wait for complete cooling, rearm the bulbs at the back of the boiler and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
ALARM MOTOR RED. BLOCKED	Indicates that the pellet feed motor reducer is blocked or disconnected.	Switch off the machine, wait for complete cooling and repeat the ignition cycle. If the problem persists, the restoration operations must be carried out by an authorised technician.
AIR VALVES TEST ALARM	Indicates the incorrect positioning of the air valves.	Check the connection between the air valves and the electronic board (S14-U28, S15-U29) Check that the air valves are not blocked. By pressing keys 4 and 5 at the same time, carry out the AIR VALVES TEST and check their correct calibration.

WARRANTY

EXTRAFLAME S.p.A. reminds you that the manufacturer is the owner of the rights envisioned by the Legislative Decree dated 2 February 2002, n. 24 and the following warranty does jeopardise these rights.

This warranty certificate, granted by Extraflame S.p.A., with offices in Montecchio Precalcino (VI), via dell'Artigianato 10, refers to all stove components supplied by Extraflame S.p.A. and is extended to the free repair or replacement of any part of the defective appliance, on the condition that:

- ❖ the same defect is detected within 2 YEARS from the product delivery date and is communicated to an Extraflame S.p.A. After-Sales Centre within 2 months from its discovery;
- ❖ is recognised as such by an Extraflame S.p.A. After-Sales Centre.

No cost or expense will be charged to the client for interventions that the Extraflame S.p.A. After-Sales Centre will carry out if provided by the warranty certificate.

The warranty is considered valid on the condition that:

- ❖ The installation and relative connections of the plant have been carried out by professionally authorised staff in total compliance with the Standard in force (M.D. n.37 dated 22 January 2008), in compliance with the normatives in force, both national and regional, as well as these instructions.
- ❖ Testing has been carried out by an authorised Extraflame S.p.A. After-Sales Centre, which assume the responsibility to have verified that the plant has been realised in compliance with the Standard in force, by professionally qualified staff, in compliance with the normatives in force and to have checked the good functioning of the installed product. Once this has been verified, the After-Sales Centre will supply all the information for its correct use, filling in and delivering a copy of the document which certifies the warranty, underwritten by the client.

WARRANTY CONDITIONS

The warranty is considered valid on the condition that:

1. The boiler is installed, in compliance with the Standards in force with regard to the prescriptions contained in the installation, use and maintenance manual relating to the product, by qualified staff in possession of the legal requisites (M.D. n.37 dated 22 January 2008);
2. The client is in possession of the documentation which certifies its eligibility, filled in in all its parts:
 - a. INSTALLATION REPORT ⇒ filled in by the installer
 - b. TESTING REPORT AND WARRANTY IMPLEMENTATION ⇒ filled in on behalf of an authorised Extraflame S.p.A. after-sales centre.
3. Once filled in, attach the purchase receipt. Such documentation will have to be shown to the Extraflame S.p.A. After-Sales Centre staff in case of intervention.
If case this is missing, the Extraflame S.p.A. After-Sales Centre will refer to the appliance production date indicated on the technical data label located at the back of the product.

The warranty is not considered valid in the following cases:

1. The conditions for the implementation of the warranty have not been respected.
2. Installation has not been performed with respect to the standards in force regarding the provisions described in the use, maintenance and installation manual of the boiler.

3. Negligence of the customer due to lack of or incorrect maintenance of the boiler.
4. Presence of electric and hydraulic plants that do not comply with the standards in force.
5. Damages deriving from atmospheric agents, chemicals, electro-chemicals, improper use of the product, modifications or tampering of the product, inefficacy and/or unsuitability of the flue and/or other causes not deriving from the manufacture of the product.
6. Damage caused by normal corrosion or typical deposits of the heating plants.
7. Damage caused to the boiler owing to the use on non-original spare parts or consequences of interventions carried out by technical staff not authorised by Extraflame S.p.A.
8. Improper or negligent use of the boiler.
9. All damage caused by transport. It is therefore recommended to carefully check the goods on receipt, informing the dealer of any damage immediately, making a note on the transport document and on the carrier's copy.

Extraflame S.p.A. is not liable for any damage/injury that can, directly or indirectly, affect persons, objects and pets as a consequence of failure to comply with the prescriptions indicated in this manual and the standards in force regarding installation and maintenance of the appliance.

The following are excluded from the warranty:

- ❖ Parts relating to the hearth.
- ❖ The gaskets, coverings, the painted particulars, chrome, the handles and electric cables.
- ❖ Masonry work.
- ❖ The plant particulars for the production of domestic water not supplied by EXTRAFLAME S.p.A.
- ❖ **The heat exchanger is excluded from the warranty unless an adequate anti-condensate circuit which guarantees a minimum temperature return to boiler of at least 55°C is realised.**
- ❖ Any calibration or product adjustments are excluded from the warranty.

Further clauses

If during normal use of the product defective or badly working particulars should be detected, the replacement of such particulars will be free of charge, ex dealer who made the sale or ex our area After-Sales Centre.

For products sold abroad, the same situations will always be free of charge, ex our establishment, with the exception of particular conditions agreed during negotiations with the foreign distributor.

In case of replacing particulars, the warranty is not extended.

No compensation will be paid for the time the product is inefficient.

This is the only valid warranty and no one is authorised to issue others in name or on behalf of EXTRAFLAME S.p.A.

Recommended testing (charged to Extraflame)

Extraflame recommends for the functional testing of the product to be carried out by an Extraflame Authorised After-Sales Centre who will supply all information for its correct use.

WARRANTY INTERVENTION

The warranty request must be sent to the dealer.



RESPONSIBILITY

EXTRAFLAME S.p.A. does not grant any compensation for direct or indirect damages caused or dependant by the product.

LAW COURT

The Vicenza Law Court is elected as the competent court for any disputes.



PELLET AND WOOD BOILERS

EXTRAFLAME S.p.A.

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Extraflame reserves the right to vary the features and data given in this document at any time without forewarning, in order to improve its products.

This manual cannot be considered as a contract for third parties.

This document is available at www.extraflame.it/support