



Heating and Energy Saving Systems

pellet • biomass • wood
solar energy • gas • oil

GENERAL CATALOGUE
2019-2020



**thermostahl**
group of companies



ecoSTER TOUCH

REMOTE CONTROL STRAIGHT FROM YOUR LIVING ROOM

The ecoSTER TOUCH device is a remote control equipped with touchscreen and room thermostat for easy temperature adjustment.

Apart from thermostat function it gives the user wide range of possibilities of control and supervision of the boiler and the heating installation.

It is also possible to adjust basic boiler functions, select different operation modes as well get an information about fuel level or alarms. The user has also the possibility to set individual temperature scheme for day or night.



Centralized heating
installation
management



Room
thermostat



Unique design



Individual
temperature
schemes



Fuel level and
alarm information

ecoNET

A NEW DIMENSION OF COMFORT

The ecoNET internet module ensures remote access to the boiler with a PC, tablet or smartphone.

The user has the ability to adjust basic controller parameters influencing operation of the whole heating installation. From the user point of view, clear and straightforward graphic visualization of operational history can be a major and important advantage.

The ecoNET application for mobile devices is available for Android and iOS systems.



DOWNLOAD ECONET APPLICATION



Service
accounts



Online
management



Service cost
reduction



Easy
installation



Complex
databases



Full control from
anywhere



Clear alarm
history

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Company profile

THERMOSTAHL is a group of companies which produces for more than 40 years steel boilers and energy saving systems for heating and hot water.

The company owns two production plants, one in Thessaloniki, Greece and one in Bucharest, Romania, as well as a commercial representation in Poland. Our production line is equipped with high performance machinery and assures high quality in compliance with international quality standard ISO 9001.

It offers a wide range of products for residential or industrial applications on liquid, gaseous and solid fuels. The company orientates towards renewable energy, with consideration to our environment and green development.

We focus on continuous development of new technology, modern production and constant improvement.

THERMOSTAHL products are exported to all countries of South and Eastern Europe, Balkans, Baltic countries, Poland, Ukraine, Spain and Portugal.

Our company philosophy is focused on the customer. Our target is to offer efficient products, creation of new technology which saves energy and offers maximum comfort.

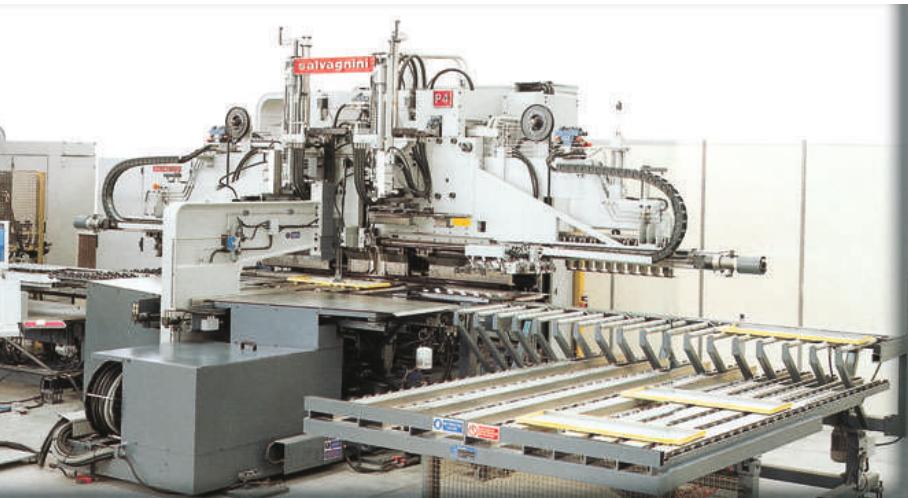
These efforts establish THERMOSTAHL as a leading manufacturer with European orientation.



Our Values

- > **Research** for new efficient technology
- > **Design** innovative products that are environmentally friendly
- > **Production** according to high quality standards
- > **Certification** according to European Standards
- > **Customer** oriented policy and after sales responsibility





The factory

THERMOSTAHL continuously develops its production facilities, investing in high performance technology and equipment, in order to offer distinctive quality products. The correct combination of automatic machinery and highly trained technicians assures stability, safety and quality.

All production is done internally, so that the entire production process and quality is under direct control of the factory. Every product will pass through various quality control tests before delivery. This is how we can guarantee perfect function for every single product.

Quality

We are devoted to offering quality products to our customers and innovate through continuous improvement.

Starting by design, engineering, production, testing, each product gets through a series of procedures and controls in order to ensure that each individual product will be delivered perfect to the customer.

The company has its own research laboratory, where innovation is taking place daily and is put to the test.



Design

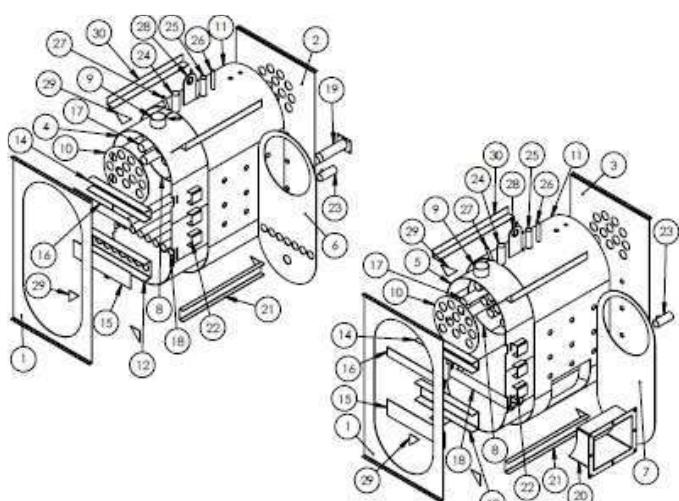
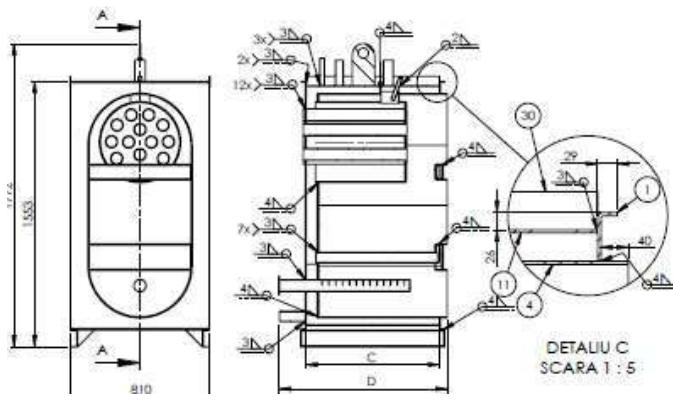
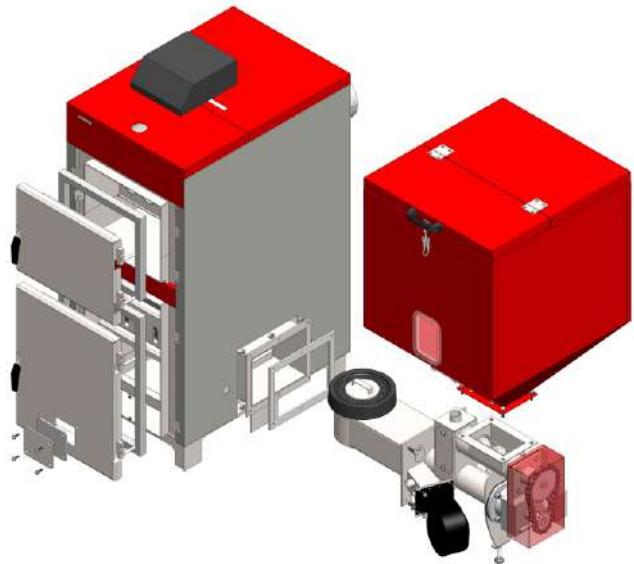
All our products are designed with main orientation towards efficiency, enviromental friendly function, high quality materiales and user-friendly functionality.

THERMOSTAHL invests in a dedicated design department and testing laboratory annually, in order to ensure innovative products.

We apply our long experience know-how, in conformity with the newest technology trends and European Standards for quality, safety, efficiency and emissions.

All our products are designed with 3D CAD design software SOLIDWORKS. All components are thoroughly examined and tested before final selection.

Technical specification and manuals are created with 3D drawings to guarantee clarity and quality.



Certification

THERMOSTAHL company ensures high quality throughout its whole activity according to international standards for quality management system ISO 9001.

The company is certified by the accredited certification body TÜV Thüringen, Germany.

All THERMOSTAHL products are CE certified according to the European Standards. This is a guarantee for high efficiency, low emissions and compliance to all safety requirements.



Customer care

THERMOSTAHL WEB

www.thermostahl.ro

In our website you can find useful information and news about the THERMOSTAHL products, as well as technical documentation, installation manuals and technical datasheet.



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TECHNICAL CONSULTING

At THERMOSTAHL we do not just offer energy efficient products, we offer complete energy saving solutions.

Our team of professional specialists can offer you ideas and solutions for any type of demand, from a small space to complex industrial applications.



Distribution



- Export countries

Service

WARRANTY

THERMOSTAHL products are famous for their quality, long lifespan and high efficiency.

This is why we offer to all our products 3 years warranty, and the assurance that by choosing a THERMOSTAHL product, you have made the right choice.



We invest in after sales responsibility of our products. Our service department is a team of highly skilled technicians, are always ready to provide with technical support and assure a perfect function of the THERMOSTAHL products.

 Service Call Center
+40 372 722 796

 E-mail
suport@thermostahl.ro



PUT INTO FUNCTION

The first start of our products is performed by Authorized Service Partners in each country, who have successfully completed the technical training.



SERVICE CENTER

We have an internal Service department and a dedicated Call Center for technical assistance and support. Call Center working hours: Monday-Friday 08:00-16:00



SERVICE PARTNERS NETWORK

The service of our products is assured by Authorized Service Partners in each country. We constantly improve through intensive training, periodical upgrades and annual evaluation.



SPARE PARTS

We have a dedicated department of spare parts, and we assure fast delivery to all European countries and a constant stock of all the necessary parts.

Biomass

What is biomass?

Biomass is any organic material that can be used as an energy source. It includes a wide variety of fuels, such as: wood, pellet, briquettes, agriculture residues, energy crops.

As an energy resource, it is unlimited, recyclable and environmental-friendly. As a fuel it has significant advantages-practically no sulphur content and a very low ash content in comparison with common fossil fuels.

But the most important advantage of biomass is that it is **renewable, clean and does not charge the atmosphere with CO₂**.

Fuel type	Calorific value kWh/kg	Allowable diameter mm	Maximum humidity %	Ash content %
Pellet	4,8-5,2	6-8	<10	<1
Agropellet	4,0-4,2	6-10	<10	<5
Carbon	5,2	3-25	<15	4-8
Lignite	1,6-3,8	3-25	<20	<10
Cereals	4,2	3-6	10-13	0,6
Olive husks	4,2	3-10	<20	<3
Wood chips	4,3	5-25	<20	<4
Wood barks	2,6	5-25	<20	-
Wood	4,0-4,3	-	<20	-
Wood briquettes	5,2	-	<20	<4

Why choose biomass?

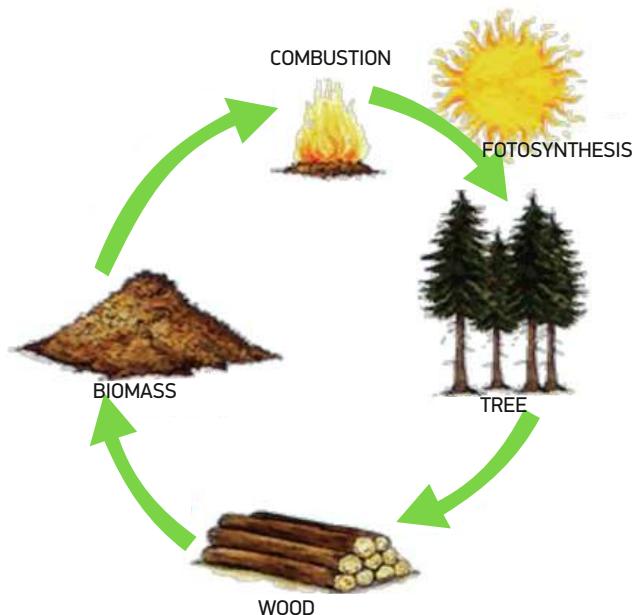
- > It is a renewable fuel
- > It can be fed and burnt in an automatic way
- > It is natural, with no chemical or additives
- > It is environmental friendly
- > It is economical



What means CO₂ neutral?

Biomass is the only fuel whose carbon dioxide (CO₂) environmental balance is zero, meaning that the plant during its lifecycle absorbs through photosynthesis process the same amount of carbon dioxide as it emits during combustion.

This means that the total impact of biomass combustion is neutral.



Pellet

Pellet is a material 100% natural. It is mainly made of wood essence.

Pellets can also be obtained from other agricultural residues (husks, leaves, hay, etc). This type of pellet is named agropellet.

Pellets are produced by extruding wood residues. Their typical shape is cylindrical. Thanks to the natural substances of wood which are liberated during pressing, they take a solid form with no need of chemical additives.

PELLET technical data		
Calorific value	kWh/kg	4,9 - 5,2
Density	kg/m ³	620-700
Diameter	mm	6-8
Lenth	mm	5 - 40
Ash content	%	<0,5
Humidity	%	<10
Dust content	%	<1

Wood

Wood is a renewable fuel, just like the sun. The most important factor of wood as a fuel is humidity. The less water it contains, the higher its calorific value.

It is recommended to use wood with no more than 20% humidity content. This way the boiler lifespan is significantly longer, and almost 30-40% fuel savings can be achieved.

The best method is to store wood after it is cut in a well ventilated and sheltered place for a period of at least 18 to 24 months.

Hardwood is better for longer lasting combustion, while softwood can be used better for creating a layer when starting a fire.

Wood specification	
Wood species	Calorific value kWh/kg
Oak tree	4,2
Beech tree	4,2
Maple tree	4,2
Birch tree	4,3
Willow tree	4,1
Fir tree, pine tree	4,4
Wood briquettes	4,0-4,9

biomass
energy
life



ecoMAX 850i

integrated management of the heating installation



Smart Menu

ecoMAX 850i is a universal device, controlling several heat sources and devices of the heating installation, in complete housing facilitating assembly and connection.

The controller is equipped with an intelligent menu function which makes non-connected elements inactive (invisible). Such solution provides simple and comfortable operation.



Remote control - ecoNET

Full access is given to all controller functions with the use of the ecoNET internet module. Service functions are available remotely via mobile devices. Users can take advantage of clear visualization of boiler operation history in a form of graphs.

- possibility of remotely controlling the system parameters via Internet
- intuitive application for ecoNET module control
- recording key parameters of controller operation

MAIN FEATURES

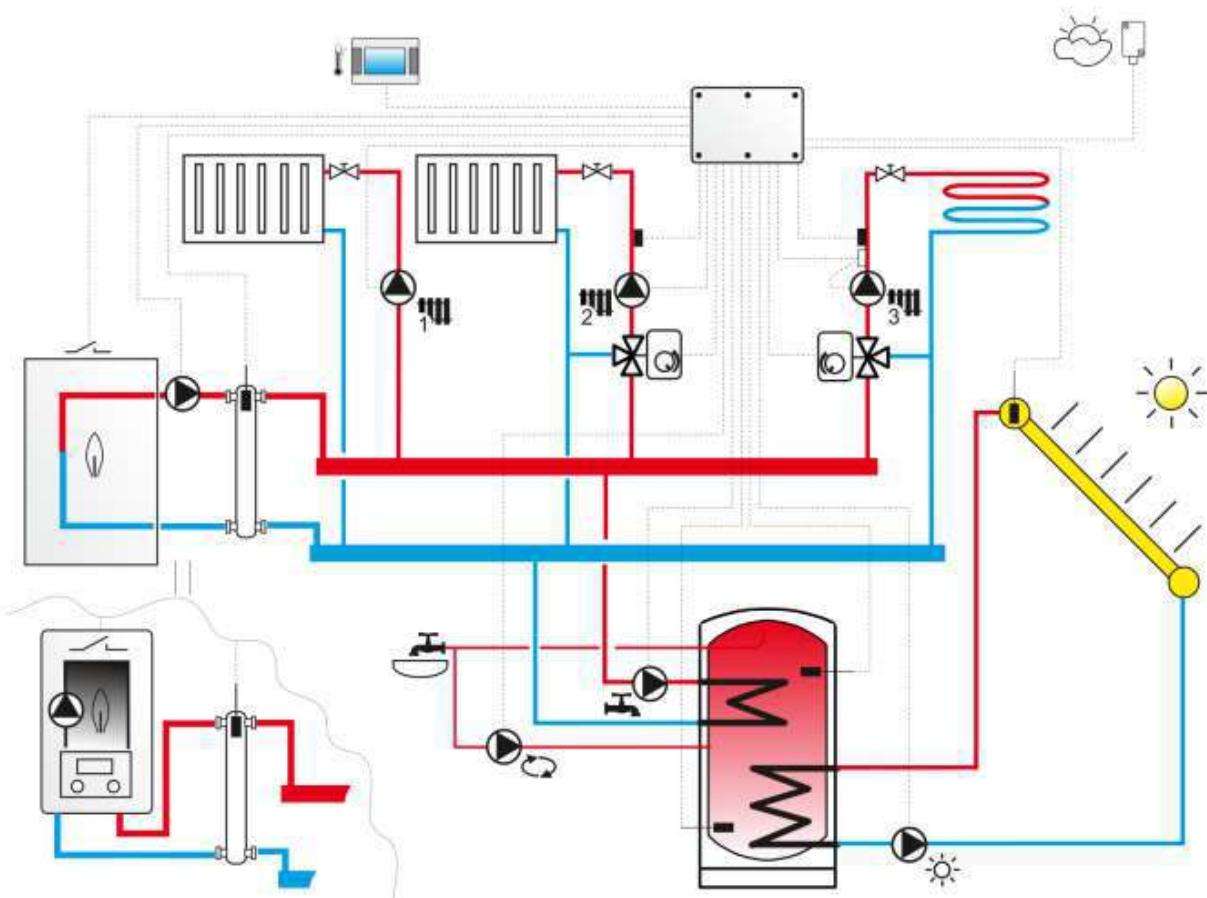
- Weather control with heating curves
- Touch & Play operation system
- Control cascade boilers of solid fuel boilers
- Energy savings thanks to integrated heat management
- Intuitive touch panel with intelligent menu
- Room temperature measurement
- Protection against freezing
- Operation in BUS network enabling extension by more mixing modules
- Cooperation with WiFi internet module enabling online control, update and service
- Connection with up to 6 panels TOUCH with room sensor

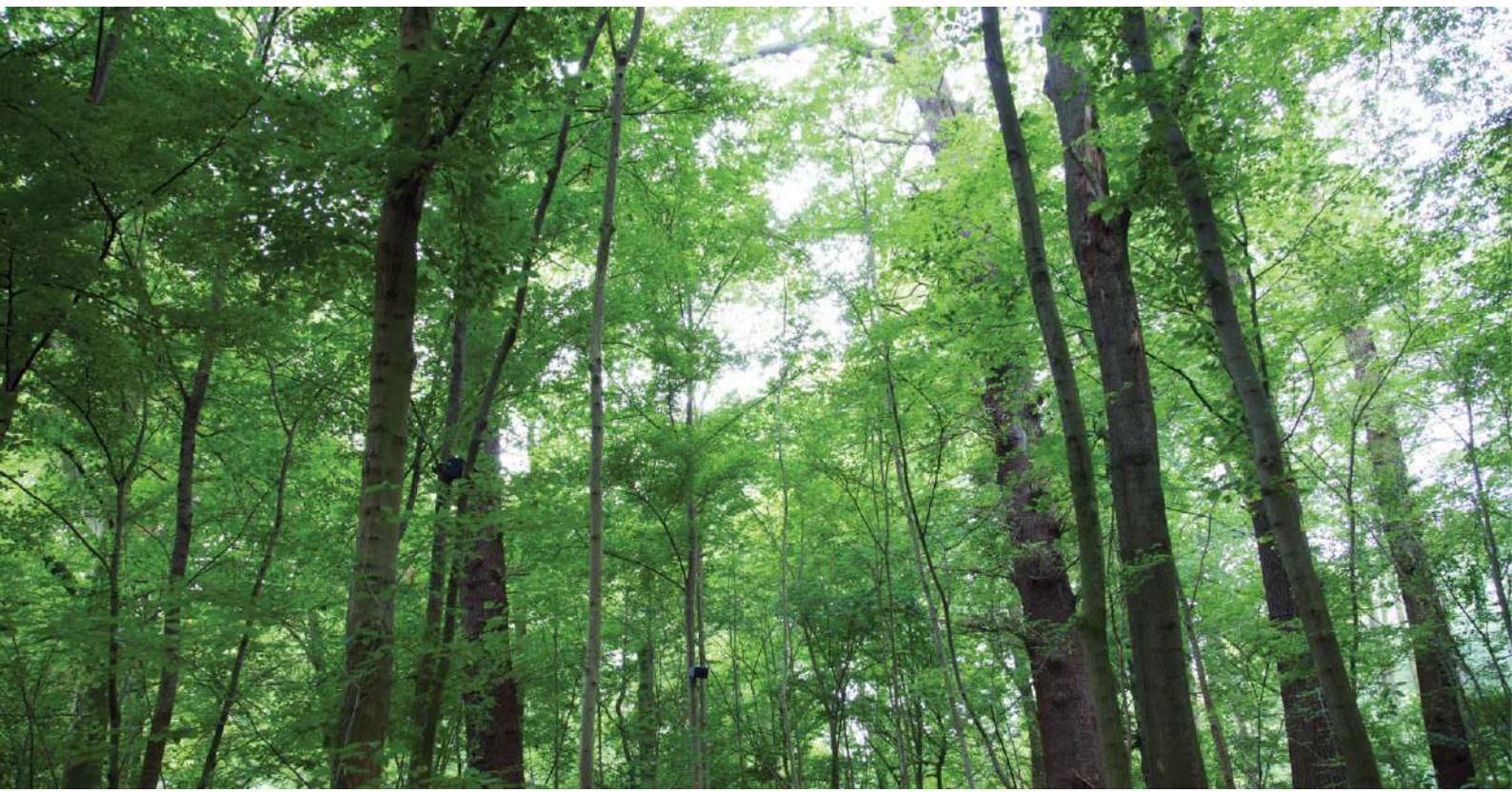
TOUCH & PLAY CONTROL FOR THE COMPLETE INSTALLATION



	Weather control		Buffer control		Internet control
	Heating pump		Boiler switch		Room thermostat
	Hot water pump		Mixing valve		Intelligent alarm
	Mixing valve pump		Summer/Winter mode		Antifreeze protection

INSTALLATION SCHEME





Biomass

Solid fuel boilers for biomass-pellet

BIOMASS • PELLET • AGROPELLET • CARBON • WOOD

The nature provides us with the most environmental friendly fuel. Biomass is an unlimited and renewable source of energy that can be obtained from almost any organic material.

Our biomass range is specially designed to function on any type of biomass fuel without any modification and with maximum efficiency: Pellet, agropellet, agricultural residues, grains, fruit husks, carbon, wood logs and briquettes.

ECOBIO

multifuel biomass boiler 25-100 kW



FUELS



pellet



carbon



agropellets



cereals



fruit shells



olive husks



wood



briquettes

ECOBIO is an automatic multifuel boiler, specially designed for use with pellet, carbon, olive husks, oats, and also manually wood.

The furnace is specially designed for protection against fire return. The fuel transportation is performed with a feeder, driven by a motoreducer and the combustion air is delivered by a fan.

Fuel is deposited into a silo of big capacity, which can ensure autonomy from 3 up to 5 days.

The boiler is equipped with a digital user-friendly control panel. It can also control the heating pump and hot water pump.

As an optional, the boiler can be equipped with **automatic ignition system** (version ECOBIO-RES) and removable overheating serpentine.



Full power modulation



Fumes sensor modulation
Flame detection



Multifuel function



3 years product warranty



Safety devices and alarm signals

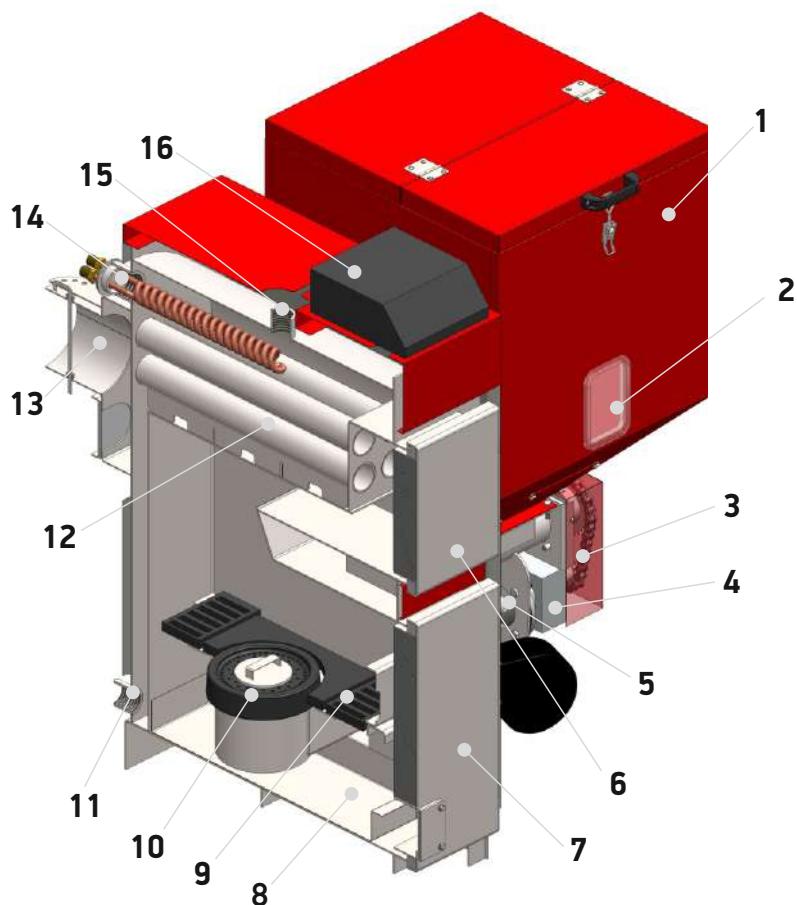


Advanced remote control

MAIN FEATURES

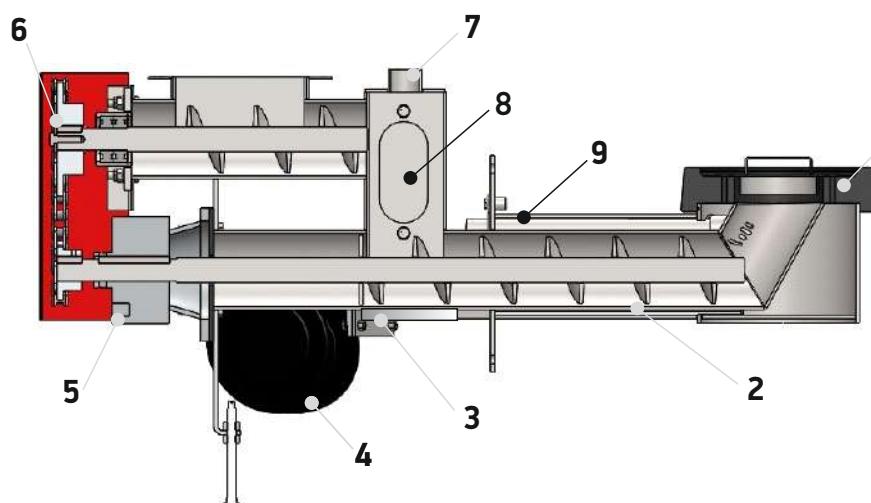
- Multifuel boiler: automatic function on pellet-biomass, manual function on wood
- Big fire chamber for high volume under small dimensions
- Three pass construction for high efficiency and small dimensions
- High performance furnace for multiple types of fuel
- Three points back-burn security
- High efficiency >89%
- Tubed heat exchanger
- Additional grate for manual wood combustion
- Digital controller with user-friendly interface
- Control of heating pump and hot water pump
- Fan power modulation
- Overheating alarm signal
- Intelligent remote control

BOILER CONSTRUCTION



FURNACE SYSTEM

The furnace has a unique design which allows function on multiple fuels with no modification required. The BIAX system with the innovative Drop-down system offers flawless operation, with no danger for back-fire or blockage. A big volume silo is provided for long autonomy. The silo has a lid that closes air-tight for protection. Fuel feeding is realized by means of a motoreducer and a feeding screw. Combustion takes place on the special cast iron grate. The combustion air is supplied by the fan.



MANUAL IGNITION



CONTROLLER ECOMAX 250R

The boiler is equipped with a modulating fan and a digital controller. The controller modulates the fan speed and controls the motor with a timer.

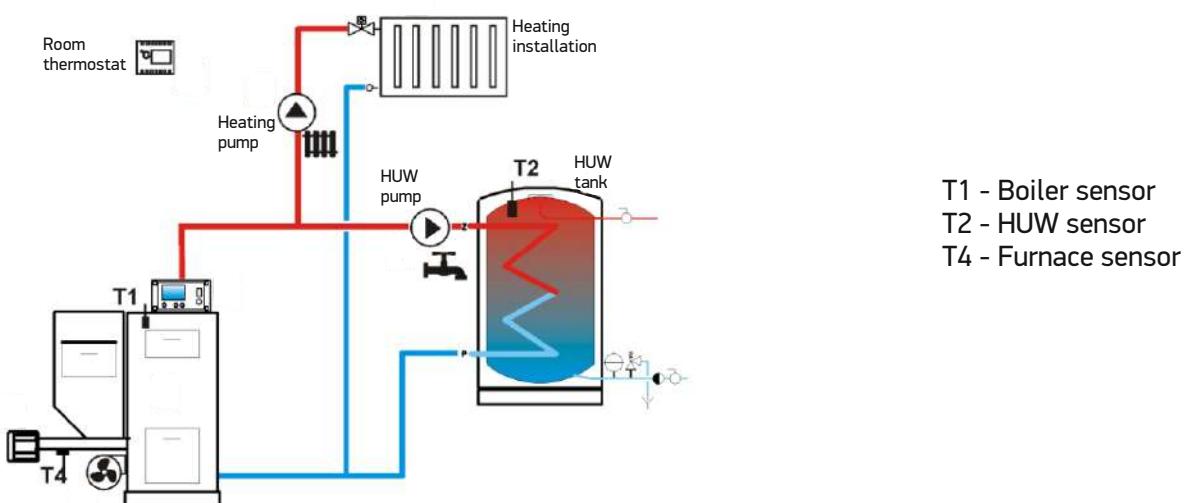
The boiler also controls the heating pump and hot water pump and can also be connected with a room thermostat.

The boiler automatically recognizes the lack of fuel and turns to standby mode.

It has an overheating protection thermostat, as well as a temperature sensor for the feeder to secure against back-burning.



INSTALLATION SCHEME



AUTOMATIC IGNITION



CONTROLLER ECOMAX 800P

The boiler is equipped with an advanced digital controller for extended control over the boiler and the heating installation.

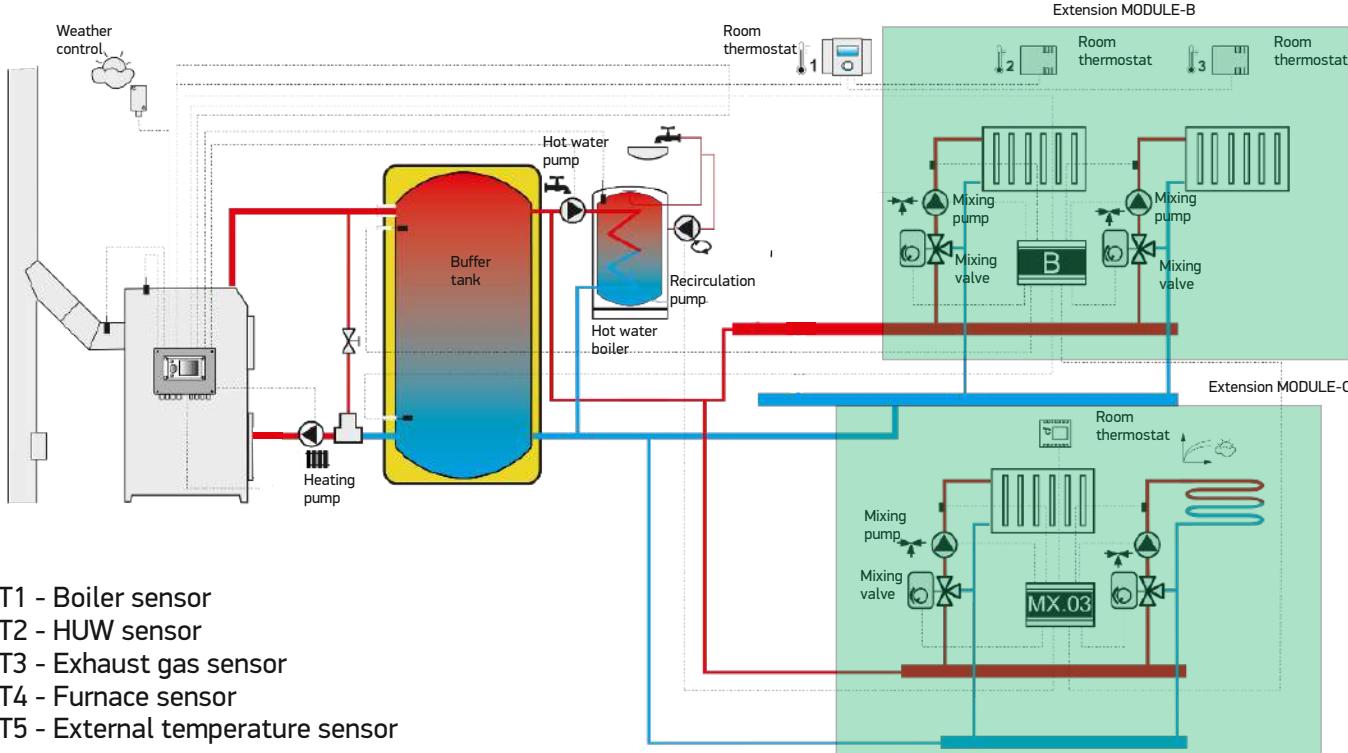
The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

The controller automatically recognizes the lack of fuel and passes to standby mode, controls the heating pump, hot water pump and recirculation pump. It can control the hot water boiler, buffer tank, one zone mixing valve and can give command to an auxiliary boiler. A room thermostat can be also connected to the controller.

The controller is standard equipped with weather sensitive control, by means of an external temperature sensor.

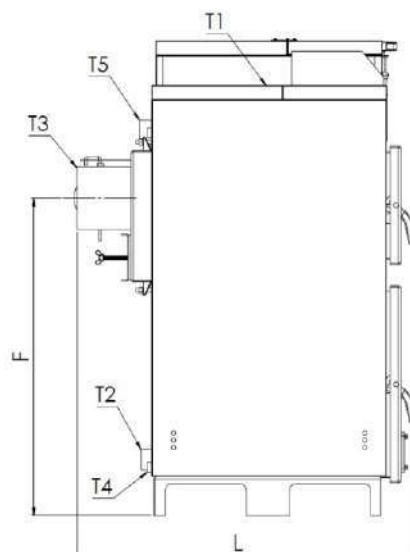
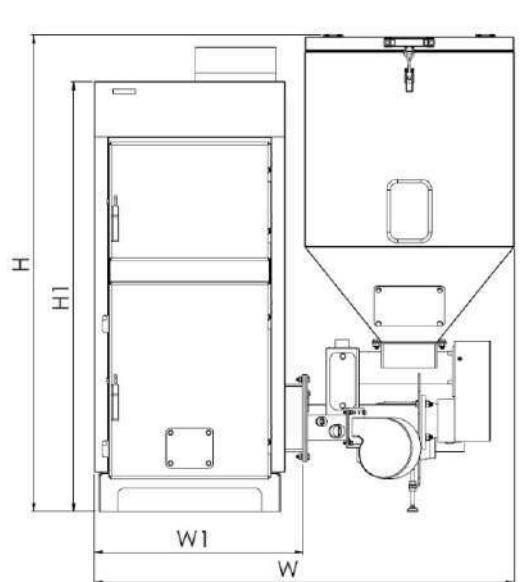
	Fan		Weather control		Igniter
	Feeder		Buffer control		Fumes sensor
	Heating pump		Boiler switch		Room thermostat
	HUW pump		Fuel level recognition		Alarm signals
	By-pass pump		Summer/winter mode		Overheating protection

INSTALLATION SCHEME



Extensions MODULE-B and MODULE-C are not standard boiler equipment.

TECHNICAL DATA



T1 - Outlet
 T2 - Return
 T3 - Chimney
 T4 - Drainage
 T5 - Safety heat exchanger

Type		ECB 25	ECB 30	ECB 40	ECB 50	ECB 60	ECB 80	ECB 100	
Nominal power	kW	25	30	40	50	60	80	100	
Efficiency	%	88	88	88	88	88	88	88	
Max temperature	°C	90	90	90	90	90	90	90	
Max pressure	bar	3	3	3	3	3	3	3	
Silo volume	lit	300	300	300	300	300	500	500	
Water contents	lit	100	120	130	170	190	370	440	
Weight	kg	322	348	376	439	475	785	870	
Electric supply	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Dimensions	H1	mm	1195	1195	1195	1310	1310	1650	1650
	H	mm	1325	1325	1325	1410	1410	1750	1750
	W1	mm	580	580	580	730	730	810	810
	W	mm	1165	1165	1165	1300	1300	1395	1395
	F	mm	880	880	880	1000	1000	1195	1195
	L	mm	935	1035	1135	1035	1135	1385	1585
	T1-T2	inch	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	mm	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	T5	mm	2"	2"	2"	2"	2"	2 1/2"	2 1/2"

MCL-BIO

multifuel biomass boiler 116-1.046 kW



MCL-BIO is an automatic pellet-biomass-wood boiler for industrial use (81-1.162 kW). Thanks to its special design, it can function on multiple fuels without any change on the body.

The boiler is equipped with three doors: upper door for cleaning of the heat exchanger, middle door for manual fuel loading and lower door for ash removal. On the middle door an inspection flange is positioned, which can also be used for mounting a typical oil or gas burner as an alternative or emergency solution.

The wood grate is consisted of water cooled tubes for maximum efficiency.

The boiler is equipped with advanced digital controller with fan modulation and many automatization functions for the boiler and the heating installation.

As an optional, the boiler can be equipped with an automatic ignition system (version MCL-BIO-R).

FUELS



pellet



carbon



agropellets



cereals



fruit shells



olive husks



wood



briquettes



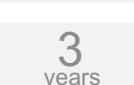
Full power modulation



Exhaust gas sensor
Flame detection



Advanced digital controller



3 years warranty

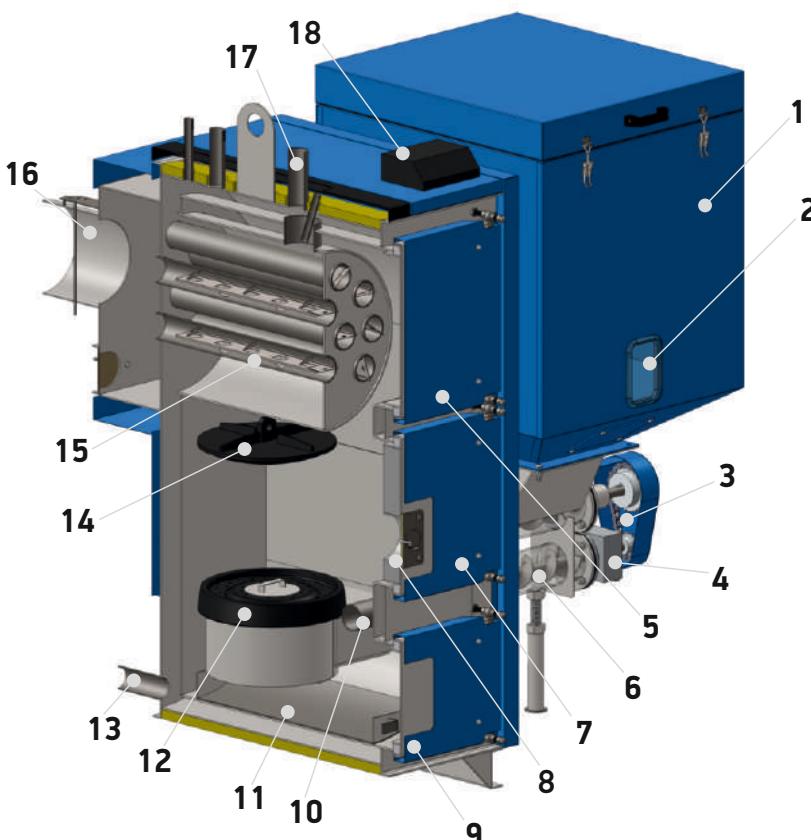


Safety features and alarms

MAIN FEATURES

- Multifuel boiler: automatic function on pellet-biomass, manual function on wood
- Oval-shaped fire chamber for high volume under small dimensions
- High performance furnace for multiple types of fuel
- Three points back-burn security
- High efficiency >87%
- Tubed heat exchanger
- Water-cooled grate for manual wood combustion
- Digital controller with advanced control of the boiler and the heating installation
- Control of 3 pumps, hot water boiler, buffer tank, mixing valve control
- Weather sensitive control with external temperature sensor
- Overheating alarm signal

BOILER CONSTRUCTION



1. Big capacity silo
2. Inspection window for fuel level
3. Furnace transmission system
4. Furnace motoreducer
5. Door for heat exchanger cleaning
6. Feeding system BI-AX
7. Feeding door
8. Flange for burner connection
9. Door for ash removal
10. Wood grate made of water-cooled tubes
11. Ash box
12. Combustion plate
13. Boiler return
14. Deflector
15. Tube heat exchanger
16. Chimney
17. Boiler outlet
18. Digital control panel

CONTROLLER ECOMAX 800R/P



The boiler is equipped with an advanced digital controller for extended control over the boiler and the heating installation.

The design of the controller is modular, which enables BUS extension for control of further devices.

The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

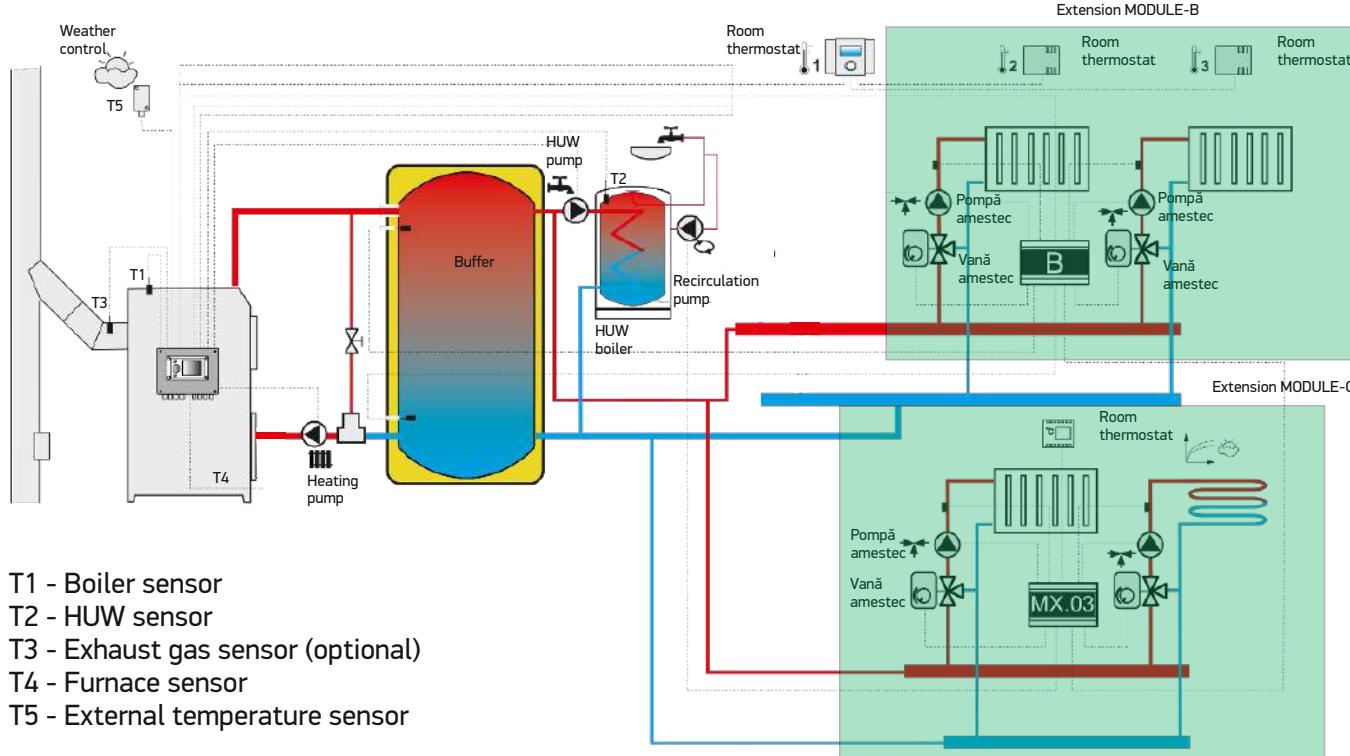
The controller automatically recognizes the lack of fuel and passes to standby mode, controls the heating pump, hot water pump and recirculation pump. It can control the hot water boiler, buffer tank, one zone mixing valve and can give command to an auxiliary boiler. A room thermostat can be also connected to the controller.

The controller is standard equipped with weather sensitive control, by means of an external temperature sensor.

	Fan		Weather control		Igniter*
	Feeder		Buffer control		Fumes sensor*
	Exhaust fan		Boiler switch		Room thermostat
	Heating pump		Fuel level recognition		Alarm signals
	Hot water pump		Summer/Winter mode		Overheating protection

*Optional features with auto ignition controller

INSTALLATION SCHEME



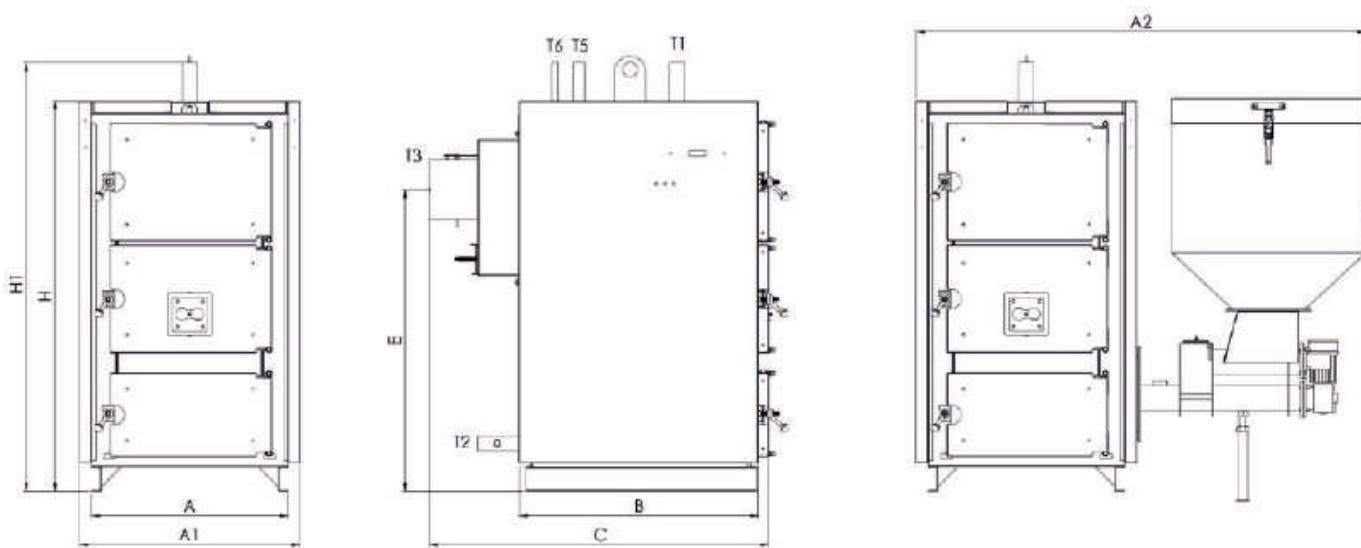
- T1 - Boiler sensor
 T2 - HUW sensor
 T3 - Exhaust gas sensor (optional)
 T4 - Furnace sensor
 T5 - External temperature sensor

Extensions MODULE-B and MODULE-C are not standard boiler equipment.

TECHNICAL DATA

Type	Power	Temp. max.	Pressure max.	Feeding door	Wood length	Efficiency	Water contents	Silo volume	Electric supply	Weight
	kW	°C	bar	mm	mm	%	lit	lit	V/Hz	kg
MCL BIO 100	116	90	3	590x370	1000	87	330	720	230/50	1000
MCL BIO 120	139	90	3	590x370	1150	87	360	720	230/50	1070
MCL BIO 150	174	90	3	590x370	1400	87	420	720	230/50	1220
MCL BIO 180	208	90	3	590x370	1600	87	550	720	230/50	1420
MCL BIO 200	232	90	3	825x510	1000	87	620	1350	230/50	1790
MCL BIO 250	291	90	3	825x510	1250	87	720	1350	230/50	2010
MCL BIO 300	349	90	3	825x510	1500	87	820	1350	230/50	2230
MCL BIO 400	465	90	3	825x510	1750	87	920	1350	400/50	2750
MCL BIO 500	581	90	3	1180x665	1250	87	1.420	2200	400/50	3500
MCL BIO 600	698	90	3	1180x665	1500	87	1.860	2200	400/50	4200
MCL BIO 700	814	90	3	1180x665	1750	87	2.440	2200	400/50	5200
MCL BIO 800	930	90	3	1180x665	2000	87	2.650	2200	400/50	5650
MCL BIO 900	1.046	90	3	1180x665	2250	87	2.890	2200	400/50	6150

DIMENSIONS

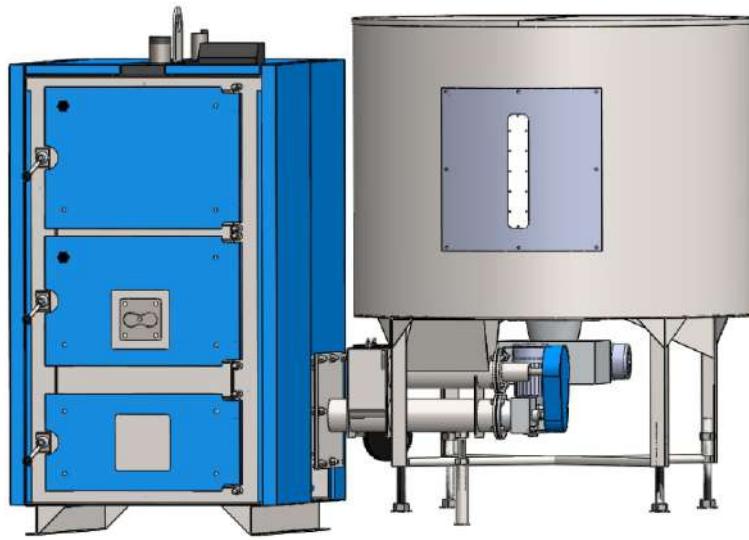


T1 - Outlet
 T2 - Return
 T3 - Chimney
 T5 - Safety kit connection
 T6 - Expansion vessel

Type	A1	A2	B	H	H1	E	C	T3	T1-T2	T5	T6
	mm								inch		
MCL BIO 100	920	1775	1170	1585	1740	1245	1615	295	2 1/2	1 1/4	3/4
MCL BIO 120	920	1930	1320	1585	1740	1245	1765	295	2 1/2	1 1/2	3/4
MCL BIO 150	920	1930	1570	1585	1740	1245	2015	295	2 1/2	1 1/2	3/4
MCL BIO 180	920	1930	1820	1585	1740	1245	2265	295	2 1/2	1 1/2	3/4
MCL BIO 200	1107	2255	1320	1970	2150	1510	1840	345	DN 80	2	2x3/4
MCL BIO 250	1107	2255	1570	1970	2150	1510	2090	345	DN 80	2	2x3/4
MCL BIO 300	1107	2255	1820	1970	2150	1510	2340	395	DN 100	2	2x3/4
MCL BIO 400	1107	2255	2070	1970	2150	1510	2590	395	DN 100	2	2x3/4
MCL BIO 500	1575	2865	1590	2465	2570	1870	2225	445	DN 100	2 1/2	2x3/4
MCL BIO 600	1575	2865	1840	2465	2570	1870	2475	445	DN 125	2 1/2	2x3/4
MCL BIO 700	1575	2865	2090	2465	2570	1870	2725	495	DN 125	2 1/2	2x3/4
MCL BIO 800	1575	2865	2340	2465	2570	1870	2975	495	DN 150	3	2x3/4
MCL BIO 900	1575	2865	2590	2465	2570	1870	3225	495	DN 150	3	2x3/4

MCL-BIOMIX

multifuel boiler with mixing mechanism 116-1.046 kW



MCL-BIOMIX is an automatic biomass boiler with a mixing system for light fuel, such as woodchips, sawdust and cereals.

The boiler is equipped with BIOMIX furnace, BI-AX feeding system, a cylindrical silo with mixing mechanism and independent mixing motor.

The rotating system is composed of high resistant blades which are positioned inside the silo in order to ensure constant flow of the fuel.

The silo is designed detachable, for easy dismounting for cleaning and maintenance.

The BIOMIX system has a dedicated control panel with digital interface.

It can be used with any type of solid fuel with maximum diameter 50mm and maximum humidity 25%.

FUELS



pellet



agropellets



cereals



woodchips



sawdust



fruit shells



olive husks



wood



briquettes



Rotating mixing system



Exhaust gas sensor
Flame detection



Advanced digital controller



3 years warranty

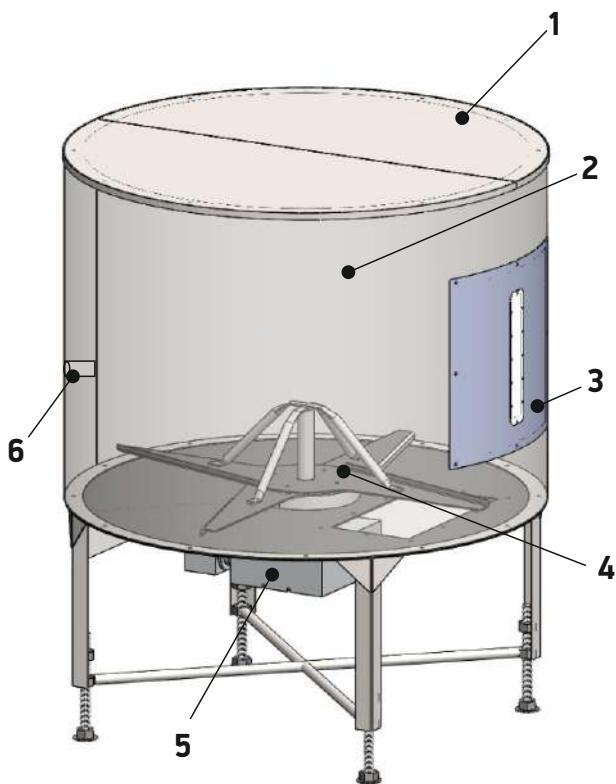


Safety features and alarms

MAIN FEATURES

- Multifuel boiler: automatic function on pellet-biomass-woodchips-sawdust, manual function on wood
- Special furnace for feeding fuels up to 50mm diameter
- Cylindrical silo with mixing system
- Three points back-burn security
- High efficiency >87%
- Tubed heat exchanger
- Water-cooled grate for manual wood combustion
- Digital controller with advanced control of the boiler and the heating installation
- Control of 3 pumps, hot water boiler, buffer tank, mixing valve control
- Weather sensitive control with external temperature sensor
- Overheating alarm signal

MIXER CONSTRUCTION

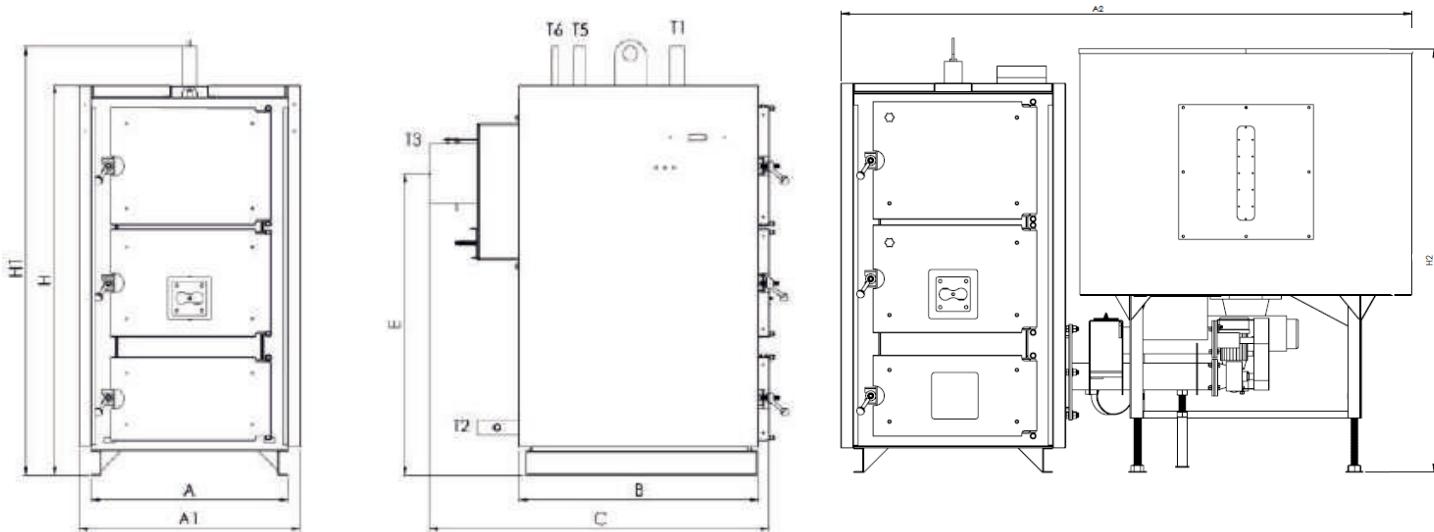


1. Easy opening lid
2. Big capacity cylindrical silo
3. Inspection window with access door
4. Rotating mixing system with blades
5. Mixing motor
6. Safety system with thermostatic valve

TECHNICAL DATA

Type	Power	Temp. max.	Pressure max.	Feeding door	Wood length	Effici- ency	Water contents	Silo volume	Electric supply	Weight
	kW	°C	bar	mm	mm	%	lit	lit	V/Hz	kg
MCL BIOMIX 100	116	90	3	590x370	1000	87	330	700	400/50	1150
MCL BIOMIX 120	139	90	3	590x370	1150	87	360	700	400/50	1220
MCL BIOMIX 150	174	90	3	590x370	1400	87	420	700	400/50	1370
MCL BIOMIX 180	208	90	3	590x370	1600	87	550	700	400/50	1570
MCL BIOMIX 200	232	90	3	825x510	1000	87	620	1450	400/50	1990
MCL BIOMIX 250	291	90	3	825x510	1250	87	720	1450	400/50	2210
MCL BIOMIX 300	349	90	3	825x510	1500	87	820	1450	400/50	2430
MCL BIOMIX 400	465	90	3	825x510	1750	87	920	1450	400/50	2950
MCL BIOMIX 500	581	90	3	1180x665	1250	87	1.420	2200	400/50	3800
MCL BIOMIX 600	698	90	3	1180x665	1500	87	1.860	2200	400/50	4500
MCL BIOMIX 700	814	90	3	1180x665	1750	87	2.440	2200	400/50	5500
MCL BIOMIX 800	930	90	3	1180x665	2000	87	2.650	2200	400/50	5950
MCL BIOMIX 900	1.046	90	3	1180x665	2250	87	2.890	2200	400/50	6450

DIMENSIONS



T1 - Outlet
 T2 - Return
 T3 - Chimney
 T5 - Safety kit connection
 T6 - Expansion vessel

Type	A1	A2	B	H	H1	H2	E	C	T3	T1-T2	T5	T6
mm												
MCL BIOMIX 100	920	2330	1170	1585	1740	1650	1245	1615	295	2 1/2	1 1/4	3/4
MCL BIOMIX 120	920	2330	1320	1585	1740	1650	1245	1765	295	2 1/2	1 1/2	3/4
MCL BIOMIX 150	920	2330	1570	1585	1740	1650	1245	2015	295	2 1/2	1 1/2	3/4
MCL BIOMIX 180	920	2330	1820	1585	1740	1650	1245	2265	295	2 1/2	1 1/2	3/4
MCL BIOMIX 200	1107	2525	1320	1970	2150	1700	1510	1840	345	DN 80	2	2x3/4
MCL BIOMIX 250	1107	2525	1570	1970	2150	1700	1510	2090	345	DN 80	2	2x3/4
MCL BIOMIX 300	1107	2525	1820	1970	2150	1700	1510	2340	395	DN 100	2	2x3/4
MCL BIOMIX 400	1107	2525	2070	1970	2150	1700	1510	2590	395	DN 100	2	2x3/4
MCL BIOMIX 500	1575	2990	1590	2465	2570	1700	1870	2225	445	DN 100	2 1/2	2x3/4
MCL BIOMIX 600	1575	2990	1840	2465	2570	1700	1870	2475	445	DN 125	2 1/2	2x3/4
MCL BIOMIX 700	1575	2990	2090	2465	2570	1700	1870	2725	495	DN 125	2 1/2	2x3/4
MCL BIOMIX 800	1575	2990	2340	2465	2570	1700	1870	2975	495	DN 150	3	2x3/4
MCL BIOMIX 900	1575	2990	2590	2465	2570	1700	1870	3225	495	DN 150	3	2x3/4

ECOBIO-RES / MCL-BIO-RES

automatic ignition system for biomass boilers



Biomass boilers ECOBIO and MCL-BIO can be equipped with automatic ignition system which consists of an electrical resistance, exhaust gas sensor and a corresponding digital controller.

The fuel ignition is achieved by hot air delivered from the resistance installed in the furnace. The whole ignition process is controlled by the ECOMAX 800P controller by means of an exhaust gas temperature sensor, which is installed on the chimney.

During the ignition, the controller manages the fuel feeding and the fan speed until a flame is developed. When the exhaust gas temperature reaches the preset level, the boiler automatically moves from ignition mode to operation mode.

Boiler type Controller	ECOBIO ECOMAX 250R	ECOBIO-R ECOMAX 800P	MCL-BIO ECOMAX 800R	MCL-BIO-R ECOMAX 800P
Feeding motor	✓	✓	✓	✓
Fan	✓	✓	✓	✓
Exhaust fan	-	✓	✓	✓
Heating pump	✓	✓	✓	✓
HUW pump	✓	✓	✓	✓
Ignition resistance	-	✓	-	✓
Exhaust gas sensor	-	✓	-	✓
Weather sensor	-	✓	✓	✓
Mixing valve	-	-	✓	-
Fuel level	-	✓	✓	✓
Room thermostat	✓	✓	✓	✓
MODULE-B				
Mixing valve I	-	✓	✓	✓
Mixing valve II	-	✓	✓	✓
Circulation pumps	-	✓	✓	✓
Buffer	-	✓	✓	✓
MODULE-C				
Mixing valve III	-	✓	✓	✓
Mixing valve IV	-	✓	✓	✓
Circulation pumps	-	✓	✓	✓
ECOLAMBDA				
Lamda sensor	-	✓	✓	✓
REMOTE CONTROL				
ECOSTER 200	✓	✓	✓	✓
ECOSTER TOUCH	-	✓	✓	✓

OPTIONAL ACCESSORIES



Automatic ignition

As an optional, MCL-BIO can be equipped with an automatic ignition system. The ignition is performed by an electrical resistance installed in the BIOFIRE furnace. The system is controlled by an electronic control panel with an exhaust gas sensor.



Safety heat exchanger

All models can be equipped with a safety heat exchanger for additional protection against overheating. The exchanger is made of copper pipe and is incorporated in the boiler body, surrounding the upper part of the fire chamber.



Extension MODULE-B

It is an extension module of the basic controller which enables the control of two additional mixing zones.



Module ECOLAMBDA

For maximum efficiency of the combustion, the boiler can be equipped with a lambda module. The sensor is installed at the chimney of the boiler and regulates automatically the oxygen supply in order to achieve perfect combustion parameters.



ECOSTER 200

This device enables distant access to all the parameters of the boiler. The ECOSTER 200 is also equipped with room thermostat with a function of setting a temperature schedule. It is also possible to connect two more temperature sensors for greater functionality.



ECONET

It is an advanced communication module which facilitates remote control of operation of the boiler via PC computer with Internet access. User is given possibility to control all the parameters: temperature adjustments, pumps and mixers operation and monitoring of current regulator operation states. Clear visualization of the boiler operation history, presented in a form of charts is another crucial benefit for the user.



ECOSTER TOUCH

It is an integrated remote control over the heating installation. Gives access to all parameters to the user. Touch screen with color interface.

***Compatible only with series ECOMAX 800 or superior.**



Safety kit

It is intended for mounting on the safety connection of the boiler. It includes safety valve(s) (according to boiler capacity), one air-relief valve and one thermomanometer.



Adaptor for cereals combustion

It ensures optimum conditions for combustion of cereals.

STORAGE AND FEEDING SYSTEMS



For extended autonomy (up to one month), THERMOSTAHL offers complete fuel storage and automatic feeding systems.

- Silo made from stainless steel
- Specially designed for wood pellet, cereals, grain, fruit stones
- Volume from 5 to 50 m³
- Fully mechanical filling up and emptying through the feeder
- Smooth internal surface finishing for excellent flow of fuel
- Strong and reliable steel legs with high stability
- Inspection hole for the fuel level

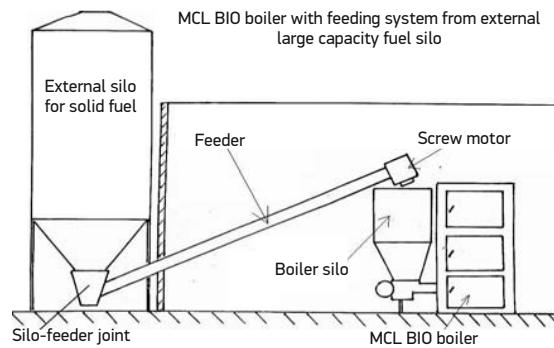
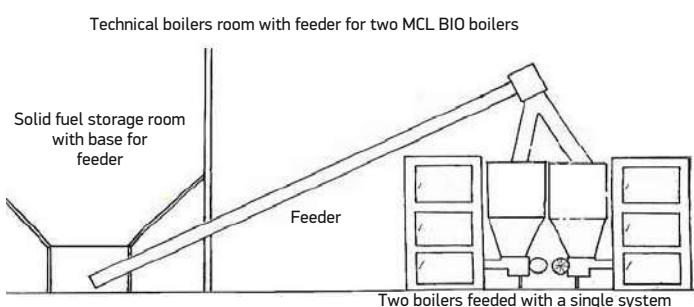


The feeding augers are specially designed according to the fuel used, the geometry of the installation and the connection to the silo.

- Specially designed according to fuel type: pellet, biomass woodchips
- Screw diameter from 90 to 200 mm
- Fuel debit from 5 to 40 tn/h
- Standard length up to 8 m. Longer augers on special request.
- Working angle from 0° (horizontal) up to 90° (vertical)
- Can be delivered with two-way manual or automatic divider



The feeding process can be automated with level sensors. The level sensors are positioned on the boiler silo and automatically maintain a steady fuel level, controlling the feeding auger. Complete electrical box is designed according to the application.





Pellet

Pellet boiler and pellet burners

WOOD PELLET

Pellet is a 100% natural fuel, made of wood residues. It is obtained through compression of the sawdust in small cylinders. It has standard characteristics, which allows it to be used in an automatic way and offers a modern alternative towards traditional energy sources for heating.

Thermostahl offers specially designed boilers for function with a dedicated pellet burner, as a complete pellet unit with boiler, burner, feeder and pellet tank.

MPB

automatic pellet burner 35-250 kW



THERMOSTAHL MPB is a pellet burner for wood pellet with diameter 6-8 mm. Thanks to the construction with a forward burning flame, this burner will give the most effective combustion and it is easy to fit it to the most boilers on the market.

The heat output of the burner can be set fixed, or can be set automatically according to the heat demand.

The burner furnace is produced of fireproof stainless steel which is resistnat to temperature up to 1150°C.

The burner comes with its own controller, which can support multiple functions and standard feeding screw of 1,5m length.

The burner comes in two versions: manual cleaning and automatic cleaning by means of compressed air.

FUELS



pellet



Automatic power setup



Automatic ignition and flame supervision



Automatic cleaning by compressed air



AISI 310

Heat refractory steel



Safety systems and automatic error diagnosis

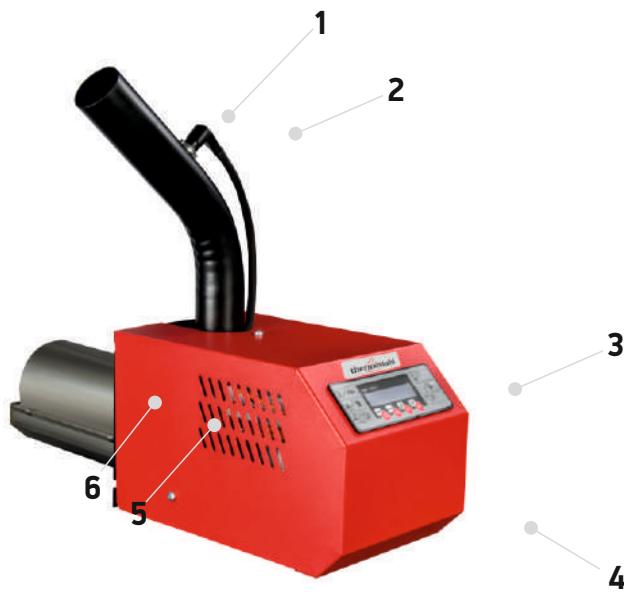
MAIN FEATURES

- Built-in controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested)
- Automatic power setup according to the heat demand
- Automatic pellet feed according to power level
- Ceramic ingition element for long-life operation and fast ignition
- Control of central heating pump and hot water / buffer pump
- Temperature sensors for the boiler and hot water temperature

Safety devices:

- Elbow-shape feeder to prevent backfire entry from burner into pellet hopper
- Melting feeding hose
- Safety contact thermostat
- Fuse protection
- In case of power interruption, all parameter settings are stored in the memory of the controller

BURNER CONSTRUCTION



1. Elbow-shaped fuel pipe
2. STB safety thermostat
3. Integrated LCD controller
4. Adaptor for automatic cleaning connection
5. Ceramic ignition element
6. Furnace tube made of refractory steel AISI 310

Automatic cleaning system

As an optional, the burner can be equipped with an automatic cleaning system by means of compressed air. The system consists of an electrovalve and compression air pipes. For the function of the system an external air compressor is required (not included).

The models MPB 150 and MPB 250 are standard equipped with automatic cleaning system.

BURNER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals



Multilingual menu

The burner controller ensures the smooth and safe operation of the heating system. Compared with most pellet burners on the market, the controller is far more extensive in terms of function, possibilities and ease of use.

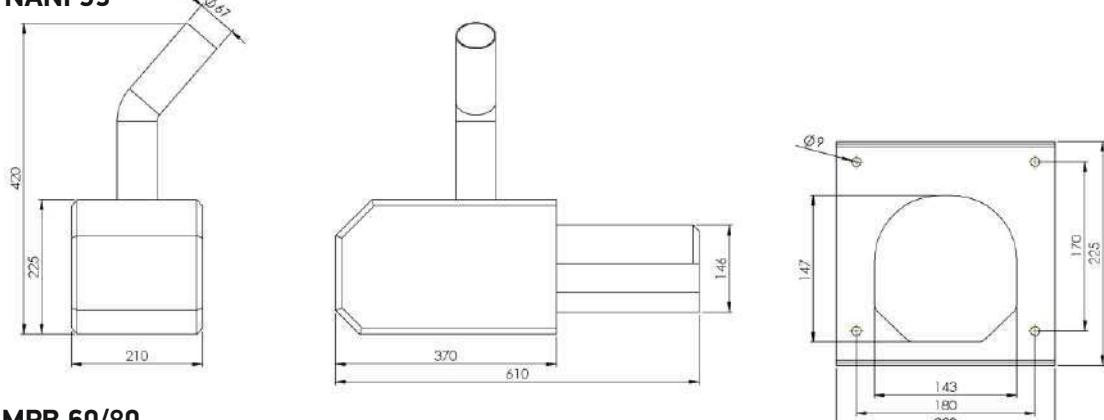
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable for connecting CH pump
- Electric cable for connecting HUW/buffer pump (optional)
- Room thermostat connection
- Audio alarm outputs in case of error
- Diagnosis of errors
- 4A fuse for high voltage protection
- Built-in flash memory maintains programme settings and safety functions in case of power failure
- Automatic restart of the burner in case of a power failure

TECHNICAL DATA

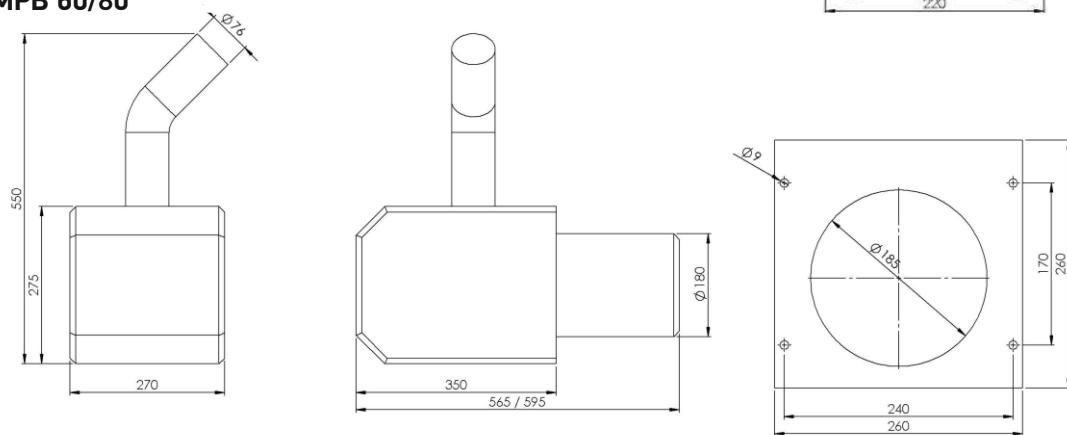
Type		NANI 35	MPB 60	MPB 80	MPB 150 Pro	MPB 250 Pro
Power	kW	10-35	20-60	40-80	70-150	100-250
Fuel consumption	kg/h	2-7	5-10	8-16	14-30	20-50
Min fire chamber required LxWxH	mm	350x300x350	450x350x400	650x400x500	900x600x600	1200x700x700
Electric supply	V/Hz	230/50	230/50	230/50	230/50	230/50
Energy consumption	W	30-40	40-50	40-70	60-70	70-80
Fuel		Wood pellet (diameter 6-8mm, ash <1%, humidity <10%)				
Weight	kg	14	18	19	40	45
Standard feeder length	m	1,5	1,5	1,5	2	2

DIMENSIONS

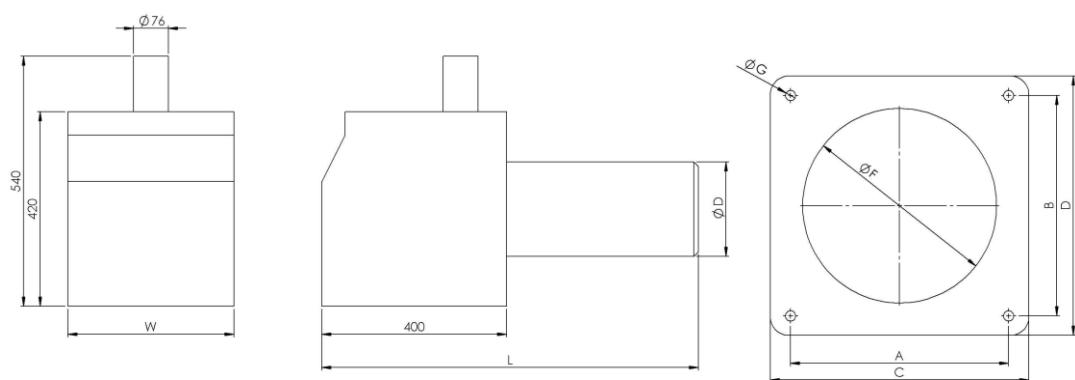
NANI 35



MPB 60/80



MPB 150/250



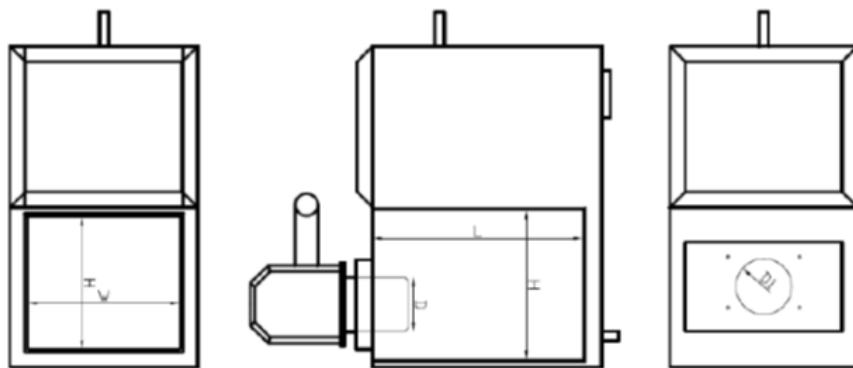
MOUNTING KIT



The MPB burner can be installed on an existing boiler, either cast iron or steel, even on a gasification boiler.

For mounting the burner on Viadrus boiler, a full kit is offered which includes: modified door, mounting flange, cast iron elements for efficiency increase.

Burner type	Recommended burner type	Number of elements	Boiler power VIADRUS	Fire chamber length
	kW	buc	kW	mm
-	-	3	17	244
NANI 35	15-20	4	20	339
NANI 35	20-25	5	25	434
NANI 35	24-30	6	30	529
NANI 35	28-35	7	35	624
MPB 60	32-40	8	40	719
MPB 60	36-45	9	45	814
MPB 60	40-49	10	49	909



For mounting on a different type of boiler, follow the dimensions from the table below. The fire chamber dimensions refer to natural draught boilers (the dimensions can differ with a margin of 10% from the mentioned values). If the L dimension is smaller, the H dimension must be bigger to obtain the necessary power.

If the mounting of the burner will be on a pressurized flame boiler (return flame), please contact the producer.

Burner type	Recommended burner power	Min fire chamber dimensions			Fire tube diam.	Flange diam.
		L	W	H		
	kW	mm			mm	mm
NANI 35	20	350	300	350	145	153
NANI 35 / MPB 60	35	450	350	400	145	153
MPB 60	50	600	400	500	180	186
MPB 80	65	650	400	500	180	186
MPB 80	80	700	500	500	180	186
MPB 150 Pro	100	900	600	600	204	210
MPB 150 Pro	120	1.000	600	600	204	210
MPB 150 Pro	150	1.100	600	700	204	210
MPB 250 Pro	200	1.200	700	700	254	260
MPB 250 Pro	250	1.300	800	800	254	260

PELLET MINI

automatic pellet unit 25-50 kW



PELLET MINI range is a very compact and efficient model for pellet fuel.

The boiler construction is pressurized with tubed heat exchanger for bigger heated surface under reduced dimensions and smooth pellet burner operation.

The product is offered as a complete pellet unit including the boiler, pellet burner, feeder and incorporated pellet tank.

The door opening is reversible, it can be adjusted on both sides.

It offers easy cleaning and maintenance and comes with a big volume ash box under the boiler.



Automatic power setup



Automatic ignition and flame supervision



Burner automatic cleaning system
with compressed air



3 years warranty



Safety features and automatic error diagnosis

FUELS

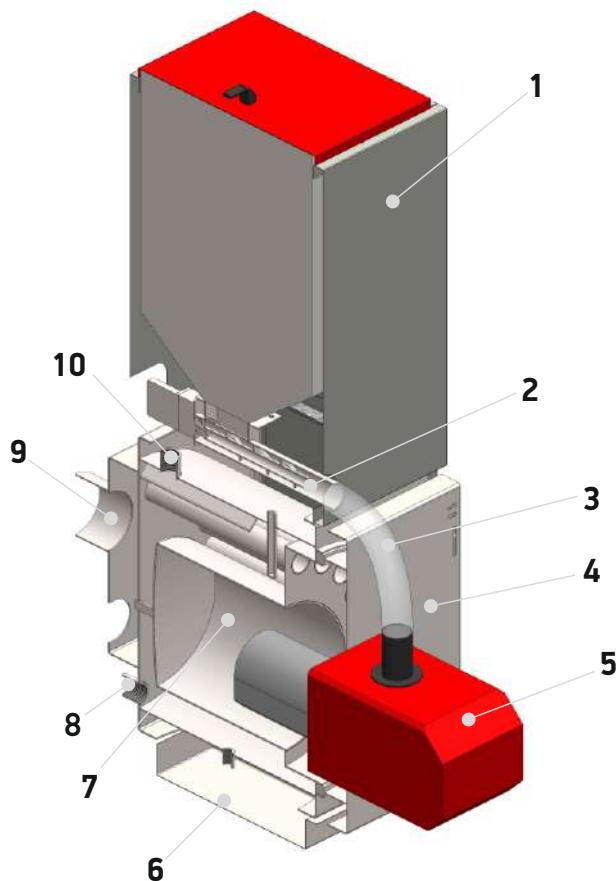


pellet

MAIN FEATURES

- Complete pellet unit with compact dimensions
- Incorporated silo positioned above the boiler
- Built-in controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested)
- Automatic power setup according to heat demand
- Automatic pellet feed according to power level
- Ceramic ignition element for long-life operation and fast ignition
- Control of central heating pump and hot water / buffer pump
- Temperature sensors for boiler and hot water temperature

BOILER CONSTRUCTION



1. Incorporated pellet tank
2. Feeding auger
3. Melting feeding hose
4. Boiler door
5. Pellet burner
6. Ash box
7. Fire chamber
8. Boiler return
9. Chimney
10. Boiler outlet

BOILER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals

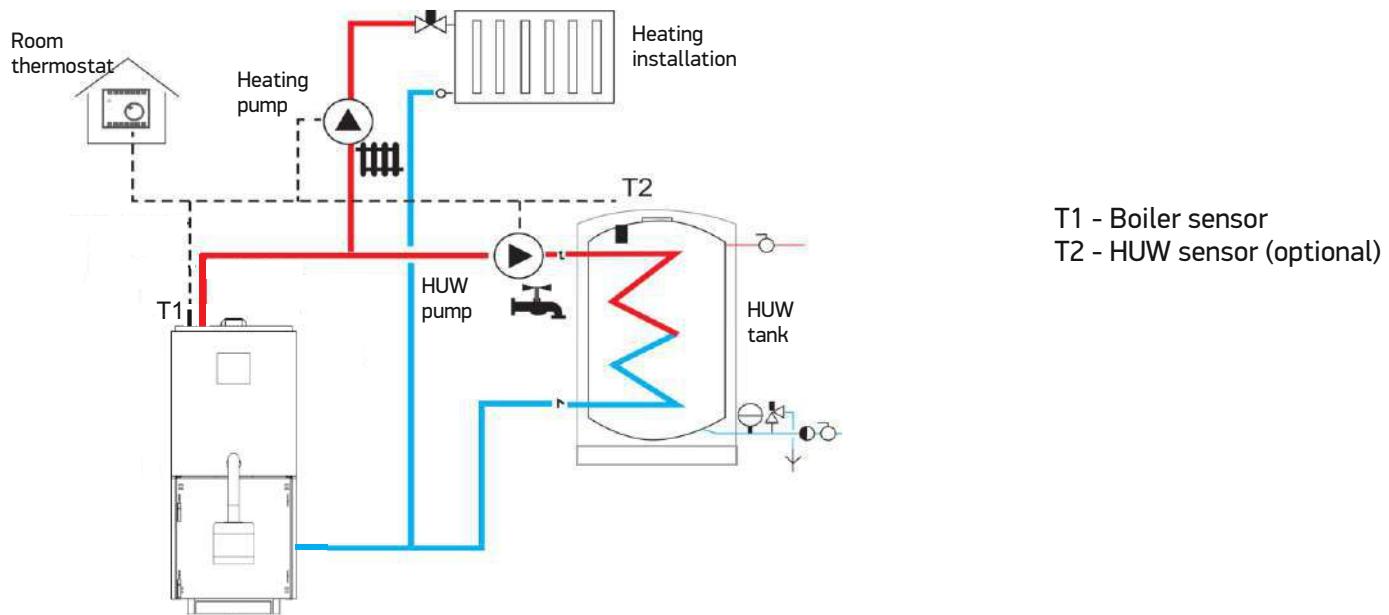


Multilingual menu

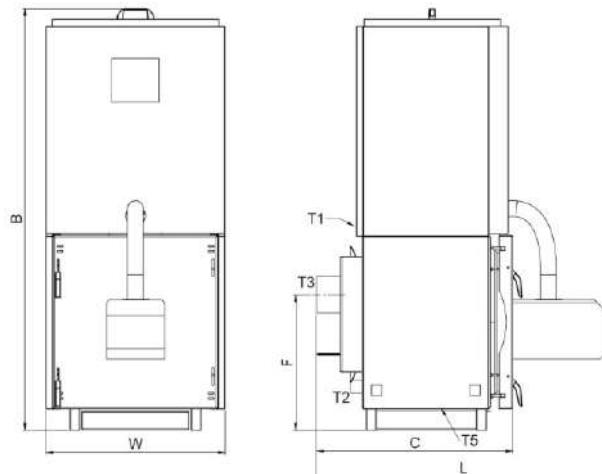
The boiler controller ensures the smooth and safe operation of the heating system. Compared with most pellet burners on the market, the controller is far more extensive in terms of function, possibilities and ease of use.

- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable for connecting CH pump
- Electric cable for connecting HUW/buffer pump (optional)
- Room thermostat connection
- Audio alarm outputs in case of error
- Diagnosis of errors
- 4A fuse for high voltage protection
- Built-in flash memory maintains programme settings and safety functions in case of power failure
- Automatic restart of the burner in case of a power failure

INSTALLATION SCHEME



TECHNICAL DATA



T1 - Outlet
T2 - Return
T5 - Drainage
T3 - Chimney

Type	PL MINI 25	PL MINI 35	PL MINI 50	
Nominal power	kW	25	35	50
Efficiency	%	91	91	91
Temperature max	°C	90	90	90
Pressure max	bar	3	3	3
Water content	lit	80	100	140
Weight	kg	250	300	470
Electrical connection	V/Hz	230/50	230/50	230/50
Dimensions	B	mm	1600	1600
	W	mm	690	690
	C/L	mm	745/1310	845/1310
	F	mm	515	515
	T1-T2	inch	1 1/4"	1 1/4"
	T3	mm	Ø160	Ø160
	T5	inch	3/4"	3/4"

PLC

automatic pellet unit 25-250 kW



FUELS



pellet

PELLET COMPACT PLC range is an economical alternative for pellet unit.

The boiler construction is pressurized with tubed heat exchanger for bigger heated surface under reduced dimensions and smooth pellet burner operation.

The product is offered as a complete pellet unit including the boiler, pellet burner, feeder and pellet tank.

The door opening is reversible, it can be adjusted on both sides.

It offers easy cleaning and maintenance and comes with a big volume ash box under the boiler.

The silo volume can be chosen according to the desired autonomy.



Automatic power setup



Automatic ignition and flame supervision



Burner automatic cleaning system
with compressed air



3 years warranty



Safety features and automatic error diagnosis

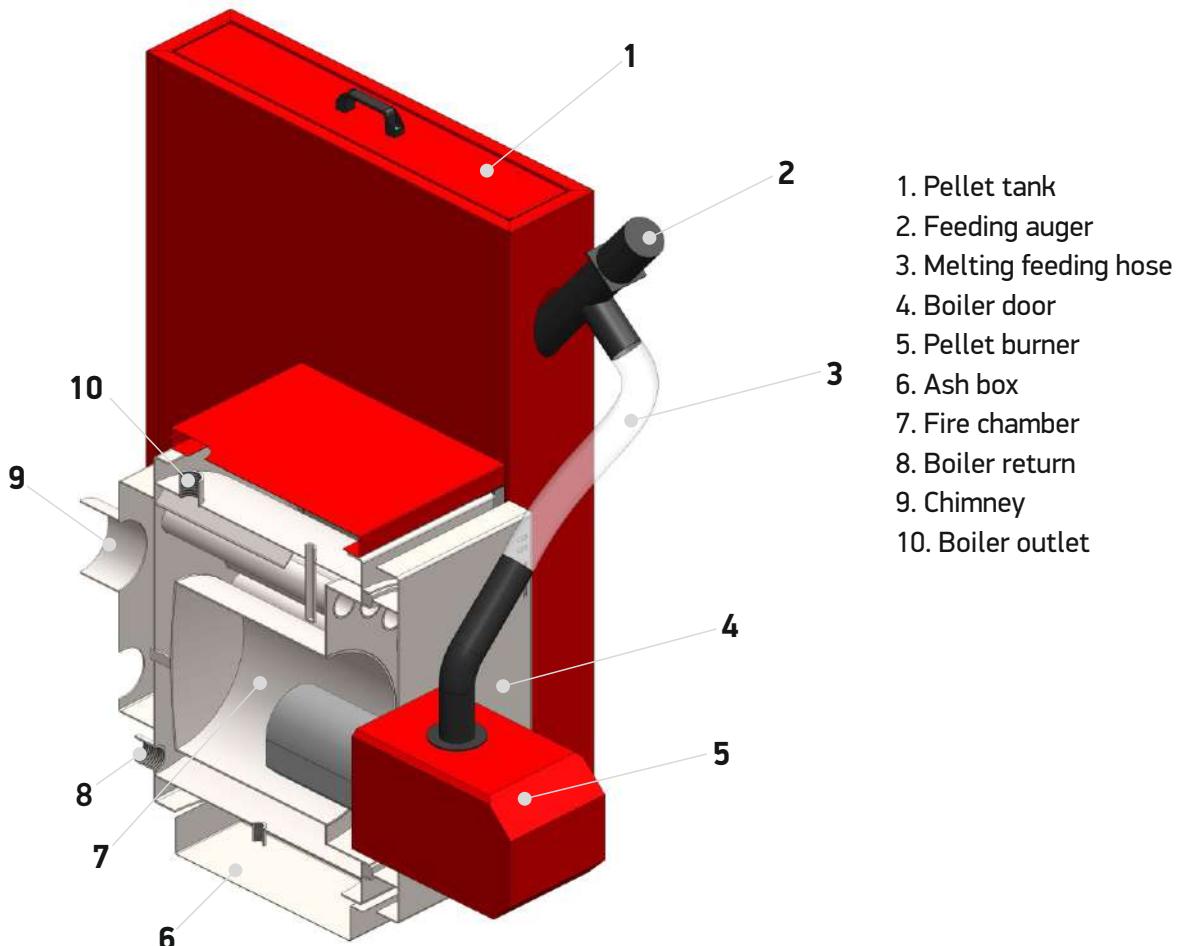
MAIN FEATURES

- Complete pellet unit with compact dimensions
- Built-in controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested)
- Automatic power setup according to heat demand
- Automatic pellet feed according to power level
- Ceramic ignition element for long-life operation and fast ignition
- Control of central heating pump and hot water / buffer pump
- Temperature sensors for boiler and hot water temperature
- Three different silo types to choose

Safety devices:

- Elbow-shape feeder to prevent backfire entry from burner into pellet hopper
- Melting feeding hose
- Safety contact thermostat
- Fuse protection
- In case of power interruption, all parameter settings are stored in the memory of the controller

BOILER CONSTRUCTION



BOILER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals

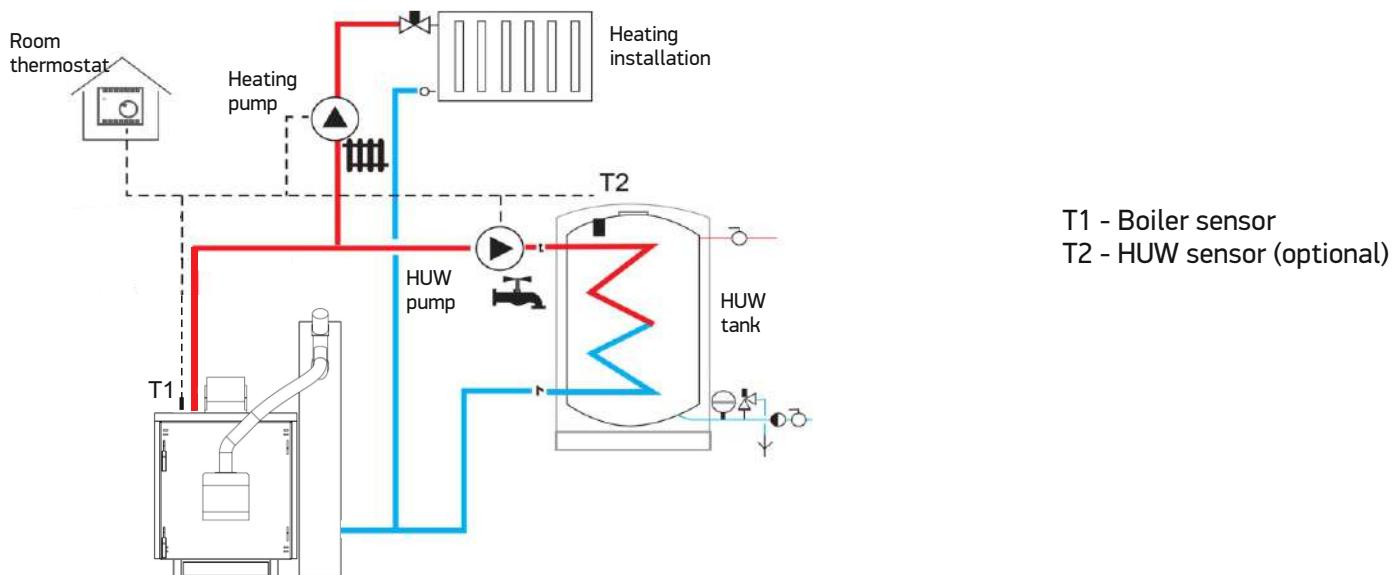


Multilingual menu

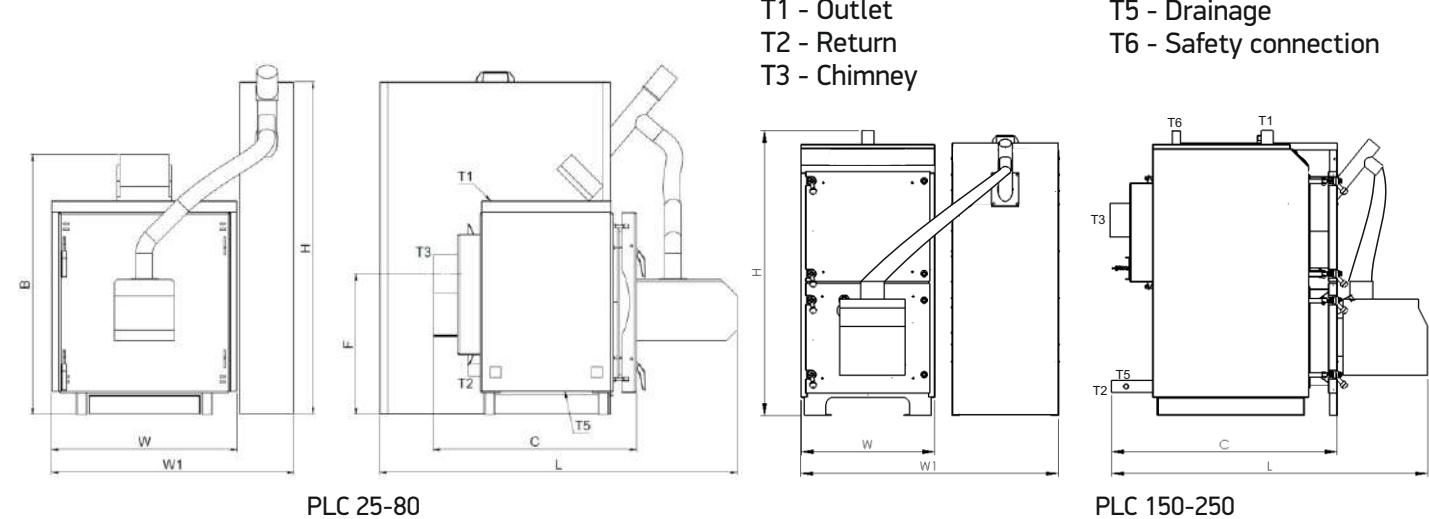
The boiler controller ensures the smooth and safe operation of the heating system. Compared with most pellet burners on the market, the controller is far more extensive in terms of function, possibilities and ease of use.

- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable for connecting CH pump
- Electric cable for connecting HUW/buffer pump (optional)
- Room thermostat connection
- Audio alarm outputs in case of error
- Diagnosis of errors
- 4A fuse for high voltage protection
- Built-in flash memory maintains programme settings and safety functions in case of power failure
- Automatic restart of the burner in case of a power failure

INSTALLATION SCHEME



TECHNICAL DATA



PLC 25-80

PLC 150-250

Type	PLC 25	PLC 35	PLC 50	PLC 80	PLC 150	PLC 250
Nominal power	kW	25	35	50	80	150
Efficiency	%	91	91	91	91	91
Max temperature	°C	90	90	90	90	90
Max pressure	bar	3	3	3	3	3
Water contents	lit	80	100	140	220	570
Weight	kg	230	280	455	510	950
Electrical connections	V/Hz	230/50	230/50	230/50	230/50	230/50
Dimensions	H/B	mm	1220/960	1220/960	1220/960	1520
	W/W1	mm	690/890	690/890	850/1050	740/1420
	C/L	mm	745/1310	845/1310	995/1310	1480/1980
	F	mm	515	515	600	1075
	T1-T2	inch	1 1/4"	1 1/4"	1 1/2"	2"
	T3	mm	0160	0160	0200	0250
	T5	inch	3/4"	3/4"	3/4"	1"

ECOTWIN

combined wood and pellet unit 25-100 kW



ECOTWIN is a combined unit for combustion of wood manually and pellet with an automatic pellet burner.

The boiler lower door is equipped with a mounting flange for installing a pellet burner, as well as an air door actioned by a chain thermostat regulator for wood combustion.

An additional door can be installed for easy change between wood and pellets (optional). Depending on the fuel used, the corresponding door is being closed.

ECOTWIN is offered as a complete pellet unit including the boiler, pellet burner, feeder and pellet tank. The silo volume can be chosen according to the desired autonomy.



Combined function of wood and pellet



Automatic ignition and function on pellet



Burner automatic cleaning system with compressed air



3 years warranty



Safety features and automatic error diagnosis

FUELS



pellet



lemn



brichete

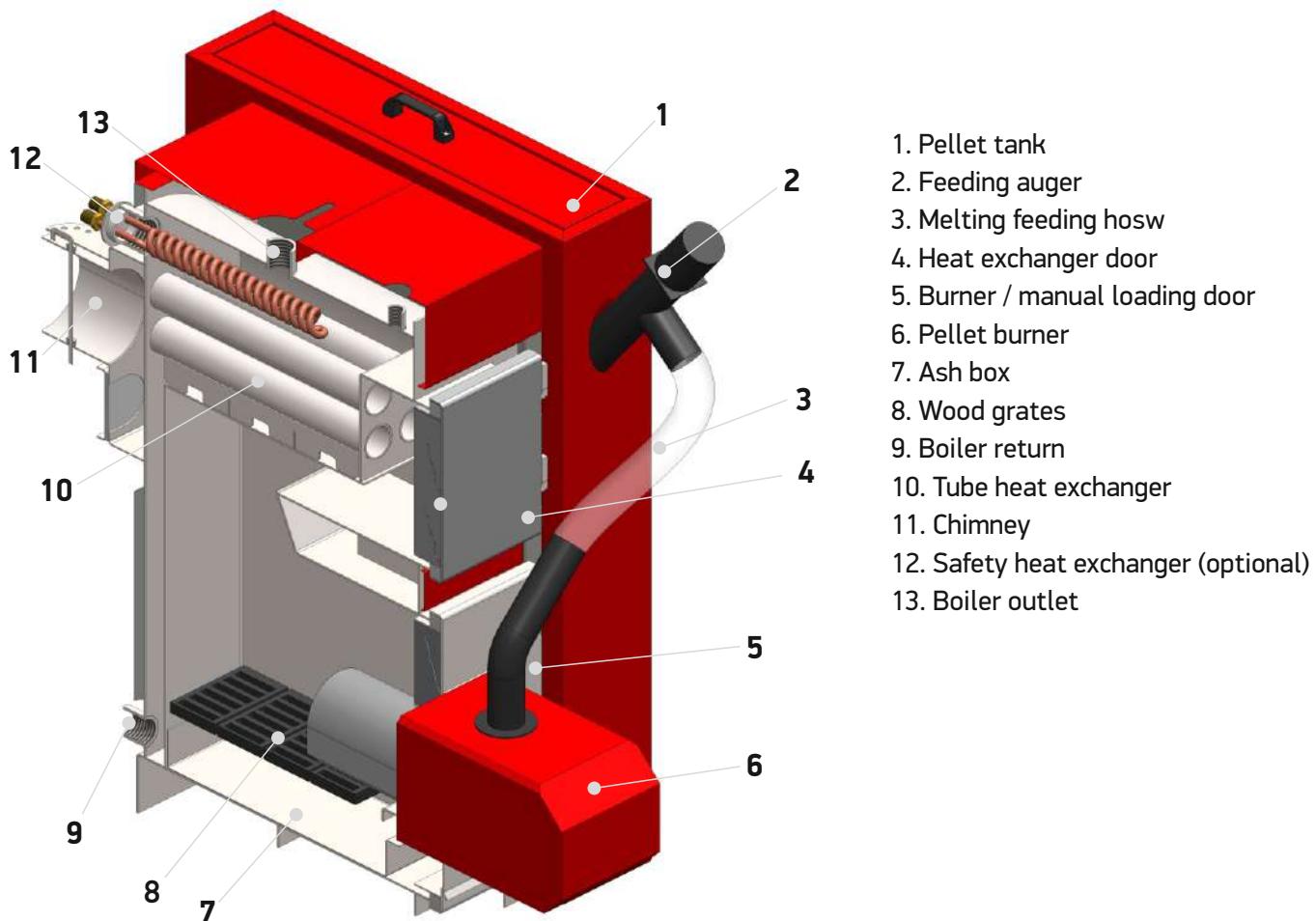
CARACTERISTICHE PRINCIPALE

- Combined pellet unit for wood and pellet
- Automatic combustion of pellet by means of a pellet burner
- Wood combustion regulation with chain thermostat
- Built-in burner controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested);
- Automatic power setup according to heat demand
- Automatic pellet feed according to power level
- Three different silo types to choose
- Optional kit with double door for easy change between wood and pellets
- Ceramic ignition element for fast ignition and long lifespan

Safety devices:

- Elbow-shape feeder to prevent backfire entry from burner into pellet hopper;
- Melting feeding hose;
- Safety contact thermostat;
- Fuse protection;
- In case of power interruption, all parameter settings are stored in the memory of the controller.

BOILER CONSTRUCTION



BOILER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals

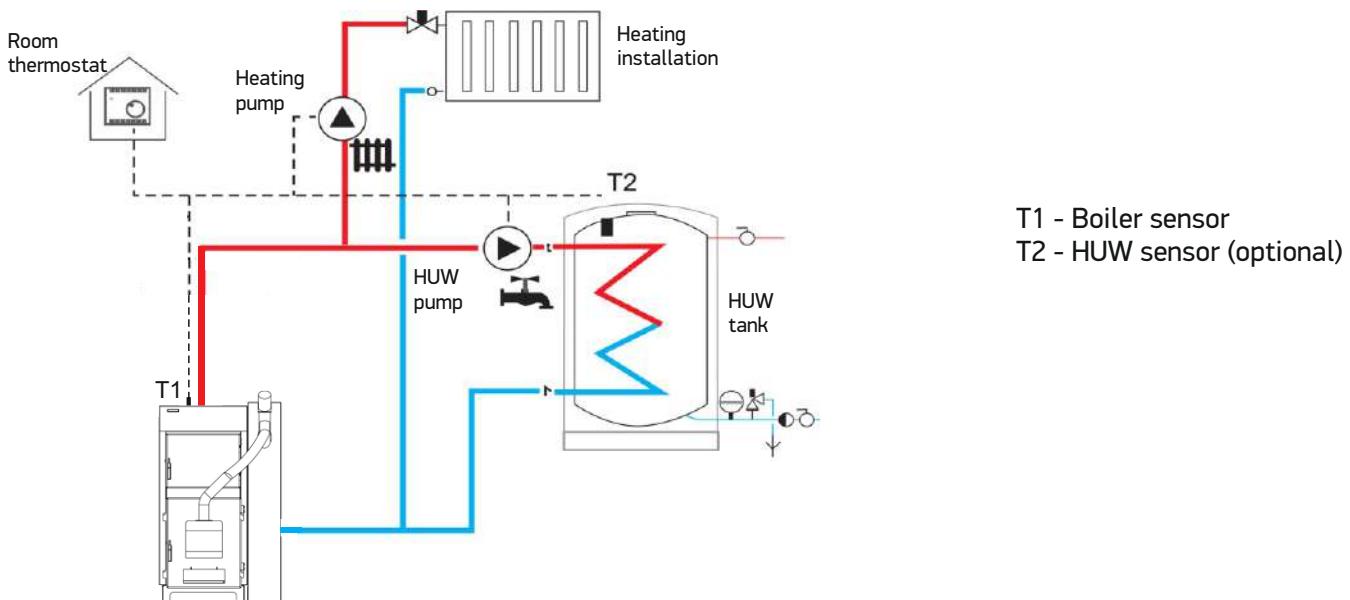


Multilingual menu

The boiler controller ensures the smooth and safe operation of the heating system. Compared with most pellet burners on the market, the controller is far more extensive in terms of function, possibilities and ease of use.

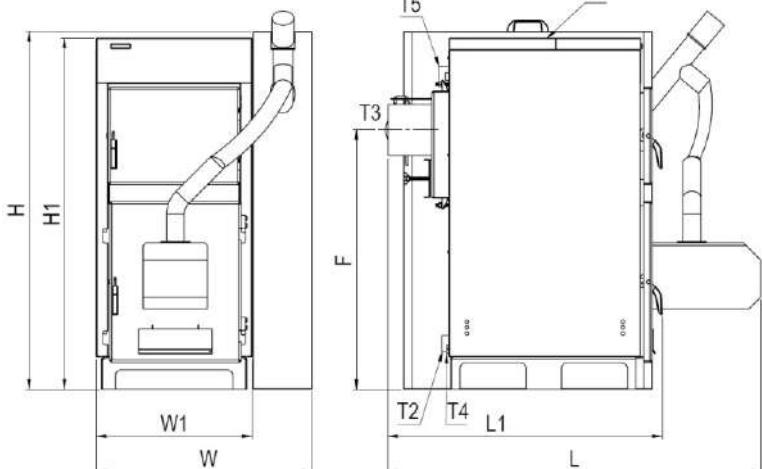
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable for connecting CH pump
- Electric cable for connecting HUW/buffer pump (optional)
- Room thermostat connection
- Audio alarm outputs in case of error
- Diagnosis of errors
- 4A fuse for high voltage protection
- Built-in flash memory maintains programme settings and safety functions in case of power failure
- Automatic restart of the burner in case of a power failure

INSTALLATION SCHEME



T1 - Boiler sensor
T2 - HUW sensor (optional)

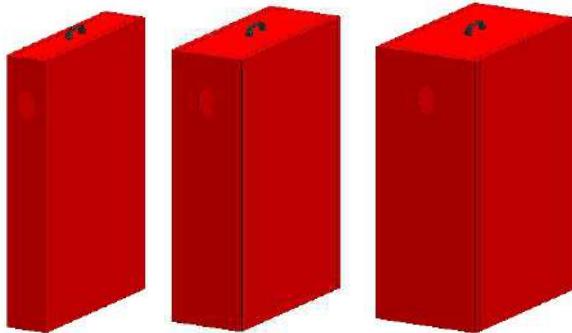
TECHNICAL DATA



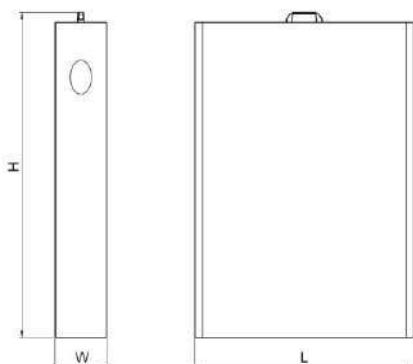
T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Drainage
T5 - Safety heat exchanger

Type	ECT 25	ECT 30	ECT 40	ECT 50	ECT 60	ECT 80	ECT 100		
Power pellet/wood	kW	25/25	30/30	40/40	50/50	60/60	80/80	80/100	
Efficiency pellet/wood	%	91/83	91/83	91/83	91/83	91/83	91/83	91/83	
Max temperature	°C	90	90	90	90	90	90	90	
Max pressure	bar	3	3	3	3	3	3	3	
Water contents	lit	100	120	130	170	190	370	440	
Weight	kg	259	282	307	355	385	675	765	
Electrical connection	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Dimensions		H/H1	mm	1220/1195		1220/1310		1220/1650	
Dimensions	W	mm	735	735	735	865	865	990	990
	F	mm	880	880	880	1000	1000	1195	1195
	L/L1	mm	1270/935	1370/1035	1470/1135	1350/1035	1450/1135	1735/1385	1935/1585
	T1-T2	inch	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
Dimensions	T4	inch	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	T5	inch	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"

OPTIONAL ACCESSORIES



SLIM MID MAX



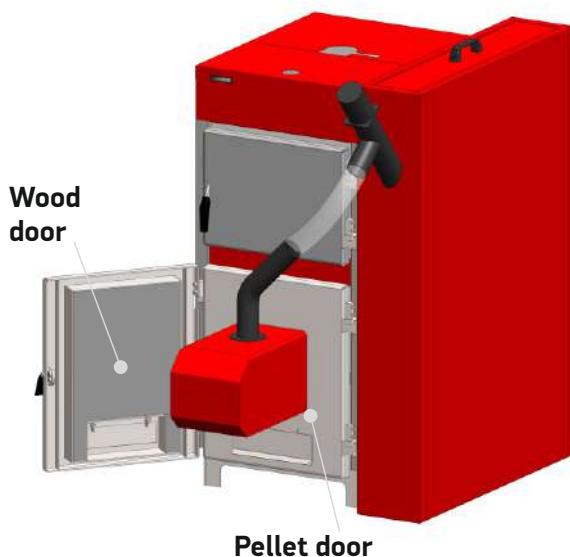
Fuel tank

Produced of steel plates, electrostatically painted. Available in three versions, depending the desired autonomy.

Equipped with lid and plastic handle.

Type	SLIM	MID	MAX	
Volume / weight pellet*	lit/kg	120/85	350/245	500/350
Autonomy	days	1-2	2-4	2-6
Recommended power	kW	25-40	50-60	80-100
Weight	kg	26	31	37
Dimensions	W	mm	200	350
	H	mm	1260	1260
	L	mm	850	850

*Weight is calculated for bulk density 700kg/m³



Double door kit

With the optional kit which includes the second door, the transition between fuels is made simply closing the corresponding door.

HUW sensor

Permits control of hot water tank or buffer tank.



Automatic cleaning system

As an optional, the burner can be equipped with an automatic cleaning system by means of compressed air. The system consists of an electrovalve and connection kit with compressed air. For the system function, an air compressor 8 bar / 25 lit is required (not included).



AIR MOD

hot air pellet stove 8-12 kW



Thermostahl pellet stoves are high technology devices, made of superior quality materials.

Thanks to their innovative design, pellet stoves are the compact and efficient solution for automatic heating with pellet. Their construction offers easy access for cleaning and maintenance of all the components.

The precise fuel feeding and the three exhaust passes construction ensure a safe and very economical function.

All pellet stoves are equipped with control panel and remote control (function mode selection, power and temperature regulation, daily/weekly programming).

They are available in a wide range of models and colors, in order to perfectly integrate in any style of interior space.

FUELS



pellet

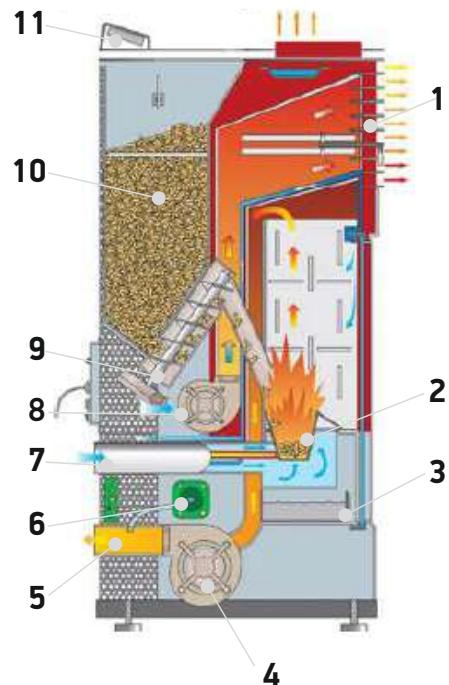
MAIN FEATURES

- Door with heat resistant glass
- Digital control panel
- Remote control
- Adjustable supports for installation on every type of floor
- New grate type for high efficiency up to 93%
- New air guidance system for higher efficiency, afterburn, low emissions, and clean glass during function
- Three passes of the exhaust gases in separate chambers for higher heat transfer and low exhaust temperature
- Big capacity pellet tank for long autonomy
- Ergonomic design for easy access and maintenance of all the components
- Small dimensions and smart design in order to fit any space
- Remote control

Safety devices:

- Exhaust fan and chimney draught sensor
- Safety thermostat
- Fuse protection

STOVE CONSTRUCTION



1. Hot air output grill
2. Pellet combustion grate
3. Ash box
4. Exhaust fan
5. Chimney connection
6. Draught sensor
7. Fresh air inlet
8. Hot air fan
9. Pellet feeder
10. Pellet tank
11. Control panel

Available colors

 Red  Beige

TECHNICAL DATA

Type		AIR MOD 8	AIR MOD 10	AIR MOD 12
Total power (max-min)	kW	8-2,8	10-3,2	12-3,8
Pellet consumption (max-min)	kg/h	1,05-0,05	1,15-0,55	1,25-0,6
Efficiency	%	87,2	87,5	89,7
Chimney diameter	mm	80	80	80
Pellet tank	lit-kg	21-15	26-17	36-25
Electrical consumption	W	120-370	120-370	120-370
Dimensions LxWxH	mm	500x530x940	530x530x970	530x530x1000
Electric supply	V/Hz	230/50	230/50	230/50
Weight	kg	75	82	95

IDRO MOD

hot water pellet stove 23-33 kW



IDRO pellet stove is a complete central heating unit in compact dimensions. It has all necessary hydraulic equipment incorporated, and also delivers hot air the space insalled. The heat exchanger is with vertical tubes and has a mechanical cleaning system with a lever.

Thanks to their innovative design, pellet stoves are the compact and efficient solution for automatic heating with pellet. Their construction offers easy access for cleaning and maintenace of all the components.

The percise fuel feeding and the three exhaust passes construction ensure a safe and very economical function.

IDRO pellet stoves are equipped with pump, expansion vessel, safety valve, air relief valve, control panel and remote controller (function mode selection, power and temperature regulation, daily/weekly programming).

They are available in a wide range of models and colors, in order to perfectly integrate in any style of interior space.

FUELS



pellet

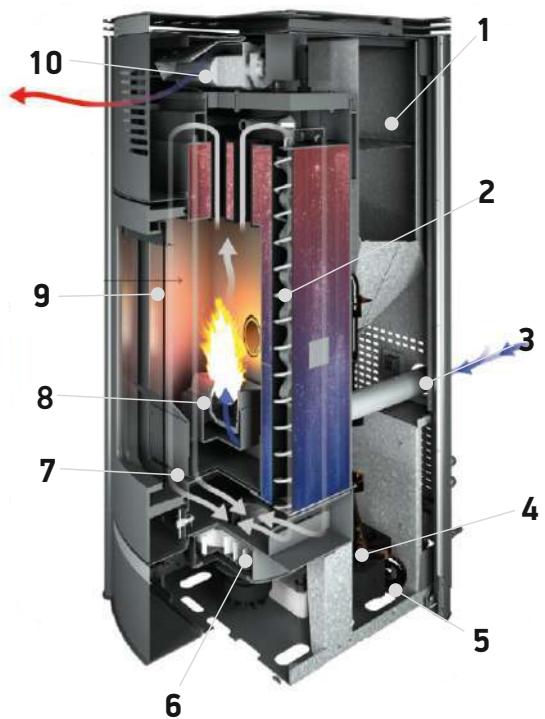
MAIN FEATURES

- Door with heat resistan glass
- Digital control panel
- Remote control
- Adjustable supports for installation on every type of floor
- New grate type fore high efficiency up to 93%
- Heating pump
- Expansion vessel
- Safety valve
- Air-relief valve
- Three passes of the exhaust gases in separate chambers for higher heat transfer and low exhaust temperature
- Big capacity pellet tank for long autonomy
- Ergonomic design for easy access and maintenance of all the components
- Small dimensions and smart design in order to fit any space

Safety devices:

- Exhaust fan and chimney draught sensor
- Safety thermostat
- Fuse protection

STOVE CONSTRUCTION



1. Pellet tank
2. Vertical tubes heat exchanger with cleaning system
3. Fresh air inlet
4. Hydraulic equipment incorporated
5. Chimney connection
6. Exhaust fan
7. Ash box
8. Pellet combustion grate
9. Heat resistant glass door
10. Hot air fan

Available colors

 Red  Beige

TECHNICAL DATA

Type		IDRO MOD 23	IDRO MOD 33
Total power (max-min)	kW	23-8	33-10
Pellet consumption (max-min)	kg/h	5-2	6-3
Efficiency	%	89,4	89,4
Chimney diameter	mm	80	80
Pellet tank	lit-kg	50-35	50-35
Electrical consumption	W	120-370	120-370
Dimensions LxWxH	mm	615x615x1100	610x770x1100
Water connections	inch	1"	1"
Electric supply	V/Hz	230/50	230/50
Weight	kg	220	250

IDRO BOILER

pellet boiler 23-33 kW



IDRO BOILER is a complete central heating unit in compact dimensions. It has all necessary hydraulic equipment incorporated, offers high efficiency and long autonomy.

The heat exchanger is with vertical tubes and has a mechanical cleaning system with a lever.

The precise fuel feeding and the three exhaust passes construction ensure a safe and very economical function.

The boiler is equipped with pump, expansion vessel, safety valve, air relief valve and control panel.

FUEL

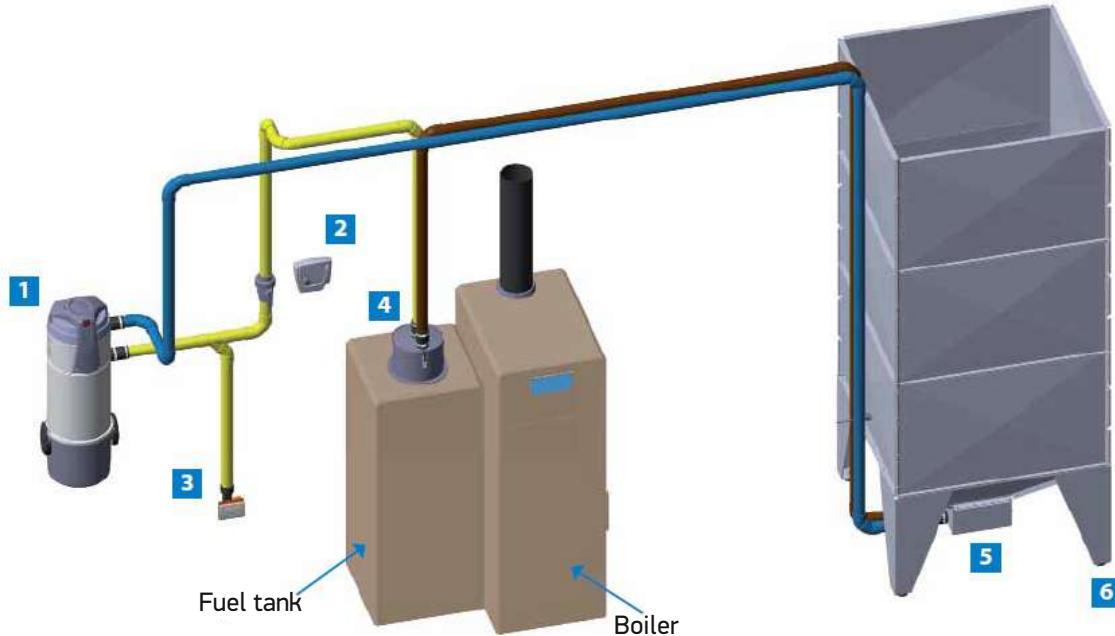


TECHNICAL DATA

Type	IDRO BOILER 23	IDRO BOILER 33
Total power (max-min)	kW	23-8
Pellet consumption (max-min)	kg/h	5-2
Efficiency	%	89,4
Chimney diameter	mm	80
Pellet tank	lit-kg	50-35
Electrical consumption	W	120-370
Dimensions LxWxH	mm	615x615x1100
Water connections	inch	1"
Electric supply	V/Hz	230/50
Weight	kg	220
		250

ADVANCE SYSTEM

pellet storage system and pneumatic transport



1. Vacuum unit NOVA 3
 3. Vacuum air inlet
 5. Pellet box

2. DRIVE controller
 4. Pellet dispenser
 6. Fuel tank

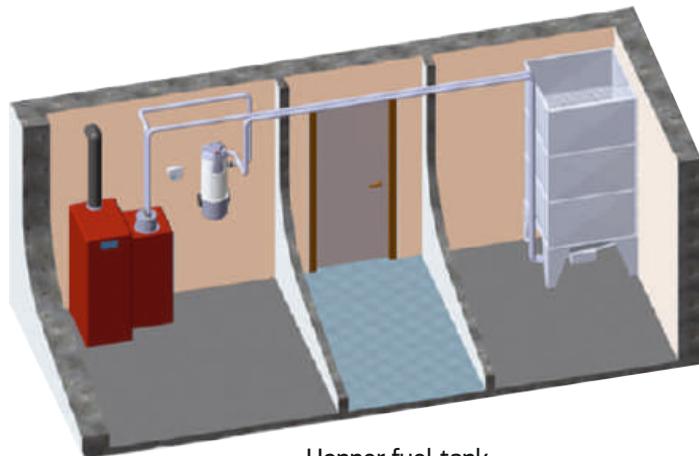
Advance System is a complete and universal installation for boilers working with biomass solid fuel, such as pellet, corn, fruit husks, kernels, olive pits, etc.

This system is completely automatic and it allows the automatic feeding of fuel without the operator intervention. Furthermore, it offers the advantage that the fuel can be stored far from the boiler, with quantities that change according to available storage space.

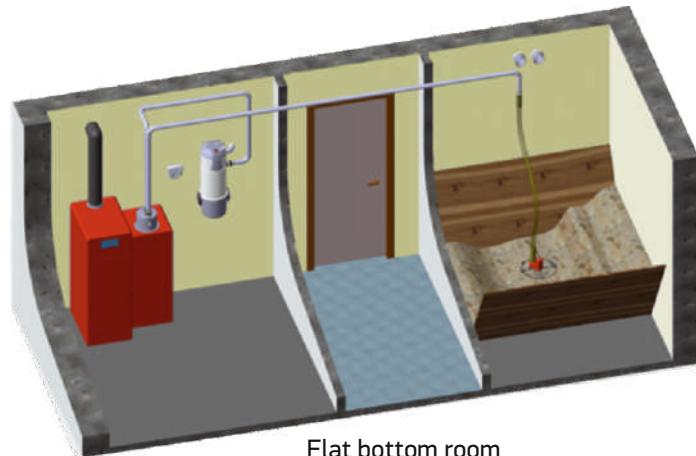
With Advance System, in addition to fuel transfer function, it is also possible to use it to clean the the boiler and the nearby spaces.

The system consists of three basic components: the vacuum unit, the dispenser and the control panel.

The fuel extraction can be performed in various ways: from hopper fuel tank, flat-bottom room, big bag.



Hopper fuel tank



Flat bottom room

ACCESSORIES



Fuel tank

The fuel tank can increase space efficiency and autonomy of the installation. It is made of galvanized steel sheets with 700 lit volume.

The fuel tank volume can be extended with the volume extensions (up to 2 pieces). It is equipped with a special flange at the bottom, where a vacuum case can be connected.



Extension module

The extension module is positioned on top of the fuel tank and can increase the capacity by 200 liters.



Pellet box

It can be connected at the bottom of the fuel tank and allows the fuel extraction by pneumatic conveyer system with double hose.



Vacuum unit NOVA 1

It is an extremely powerful and reliable vacuum unit, offering great vacuum power.

The vacuum hose can be connected either from the left or from the right side.

The NOVA 1 unit must be connected with the pellet dispenser and the DRIVE controller in order to function.



Pellet dispenser

Dispenser is made of fire resistant plastic for safety. The efficiency can be checked constantly, thanks to its transparent container.

It is supplied with a template for assembly and a cable for controller connection.



DRIVE controller

DRIVE controller has a control button and two LED indicators that display the operating system conditions. The control button manages the working time of the vacuum unit. Control light signals power and possible alarms caused by anomalies.

Control Panel Drive can manage automatically multiple devices.



Vacuum unit NOVA 3

NOVA 3 is a compact vacuum unit, with all necessary equipment pre-assembled on a single unit. The vacuum unit has an integrated compact dispenser, able to keep constantly fed the tank of biomass boilers, and an integrated controller with fuel feeding regulation.



Flexible hose

Antistatic plastic hose Ø50mm.

STORAGE SYSTEMS



FLEXILO MINI

Dimensions: 980x980 mm

Volume: 600 lit

Flexilo MINI is ideal for homes which cannot be accessed by a pellet tank truck or for heating systems with a low pellet demand. As a standard, Flexilo MINI is open at the top and can therefore be filled with pellet sacks very easily.



FLEXILO STANDARD

Height: 1,8-2,0-2,2-2,4-2,7 m

Volume: 1,5-14,4 m³

Flexilo STANDARD are suitable for any application of pellet storage. They are made of a very strong high-tech fabric, specifically adapted to the requirements of storing wood pellets, dust-tight and with long-lasting anti-static properties.

The silo can be combined with almost any discharge unit. For higher power range more silos can be connected on cascade solution.



FLEXILO TROUGH

Height: 1,3-1,6-1,9-2,2 m

Volume: 4,3-14,4 m³

The Flexilo TROUGH has the same properties and advantages as the other Flexilo, but their design rather resembles a bunker with an inclined floor.

It is especially suitable for narrow, low rooms (e.g. in old buildings, vaulted cellars). The discharge is performed through suction system or direct feed on the bottom.



FLEXILO OUTDOOR

Height: 1,9-2,2-2,5 m

Volume: 6,6-42,2 m³

The Flexilo OUTDOOR consists of a breathable, uncoated, high-strength high-tech inner silo and an outer shell. The A.B.S. developers have adapted the design to allow air to circulate between inner silo and weather protection. This prevents condensation water and allows your pellets to reach the boiler dry.

The galvanized steel construction, the shell and the roof cover made of coated polyester fabric make your outdoor silos absolutely weather-resistant.



Solid fuel

Solid fuel boilers

WOOD • BRIQUETTES • CARBON

Wood is the natural fuel that nature provides us for thousands of years. It is a neutral fuel, with no emissions, causes no pollution and is environmental friendly.

The new technology can assure big efficiency in wood combustion, making it an economic form of heating with high autonomy and automatization.

ECOWOOD STANDARD

solid fuel boiler 25-100 kW



The ECOWOOD boiler series is designed for function on any type of solid fuel: wood, agricultural residues, carbon, briquettes.

ECOWOOD STANDARD version is equipped with a thermometer and chain thermostat regulator.

The boiler is equipped with a flange for installation of a pellet burner at any time.



Big dimensions fire chamber



Economic function



3 years product warranty

FUELS



wood



briquettes

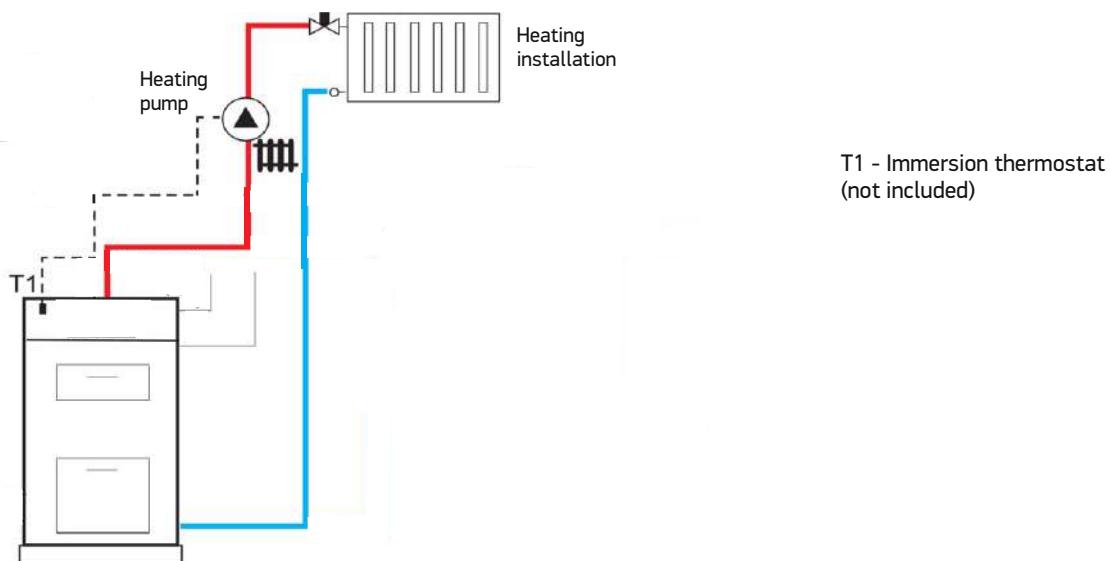


carbon

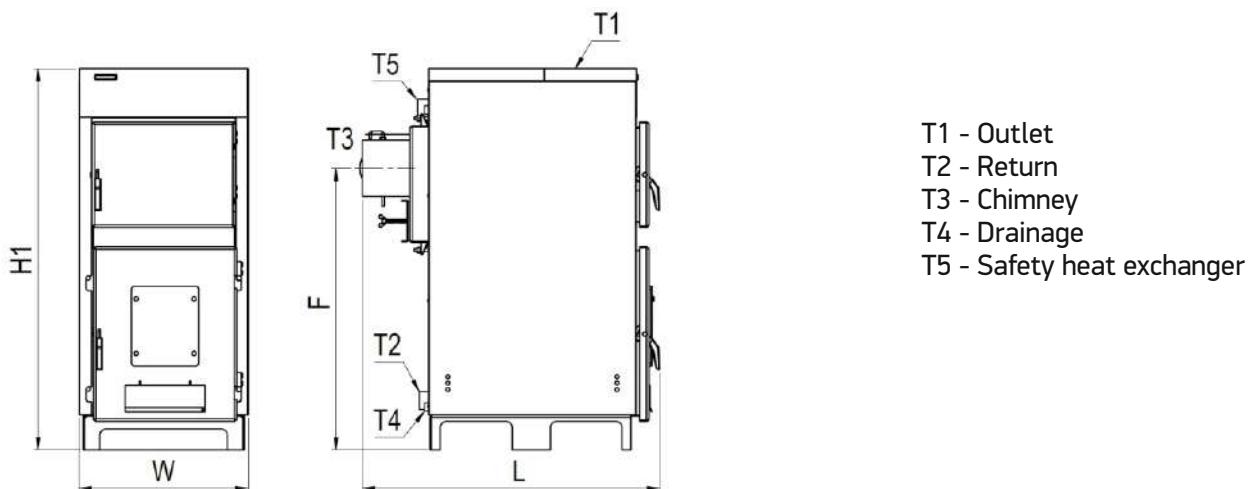
MAIN FEATURES

- Big fire chamber for high volume of fuel loading
- Three pass construction for high efficiency and small dimensions
- Robust construction
- Tubed heat exchanger
- Easy installation of a pellet burner
- Economic function
- Function with chain thermostat regulator
- Removable safety heat exchanger (optional)

INSTALLATION SCHEME



TECHNICAL DATA



Type	ECWS 25	ECWS 30	ECWS 40	ECWS 50	ECWS 60	ECWS 80	ECWS 100		
Nominal power	kW	25	30	40	50	60	80	100	
Efficiency	%	83	83	83	83	83	83	83	
Temperature max	°C	90	90	90	90	90	90	90	
Pressure max	bar	3	3	3	3	3	3	3	
Water contents	lit	100	120	130	170	190	370	440	
Weight	kg	259	282	307	355	385	675	765	
Dimensions	H	mm	1195	1195	1195	1310	1310	1650	1650
	W	mm	530	530	530	660	660	785	785
	F	mm	880	880	880	1000	1000	1195	1195
	L	mm	935	1035	1135	1035	1135	1385	1585
	T1-T2	inch	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200	Ø200
	T4	inch	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	T5	inch	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"

ECOWOOD PLUS

solid fuel boiler with electronic control 25-100 kW



FUELS



wood



briquettes



carbon

The ECOWOOD boiler series is designed for function on any type of solid fuel: wood, agricultural residues, carbon, briquettes.

ECOWOOD PLUS version is equipped with a modulating fan and a digital controller. The boiler can also control the heating pump and the hot water pump, as well as be connected with an exhaust gas temperature sensor for full fan modulation and maximum fuel savings.

The boiler is equipped with a flange for installation of a pellet burner at any time.



Full fan modulation



Fumes sensor modulation
Flame detection



Economic function



3 years product warranty

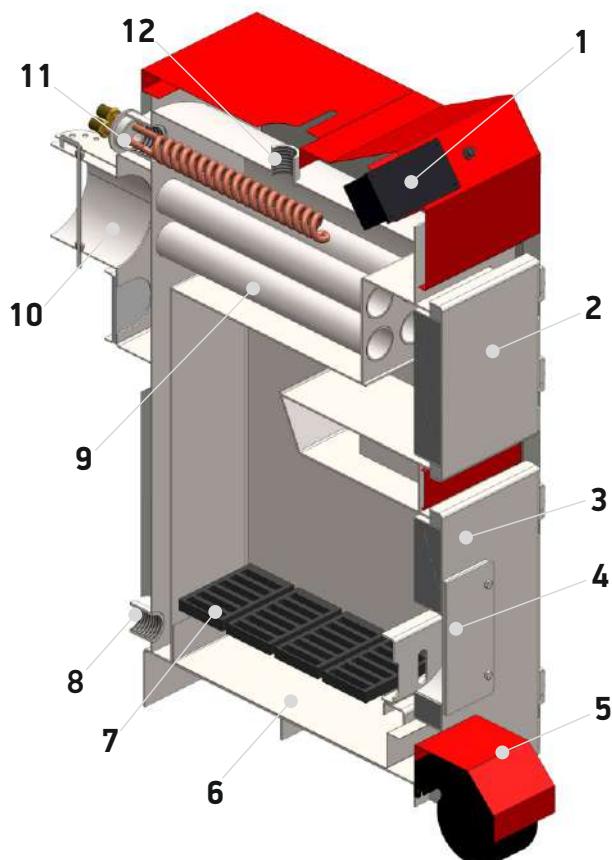


Safety devices and alarm signals

CARATTERISTICHE PRINCIPALE

- Big fire chamber for high volume of fuel loading
- Three pass construction for high efficiency and small dimensions
- Robust construction
- Tubed heat exchanger
- Easy installation of a pellet burner
- Removable safety heat exchanger (optional)
- Digital controller with user-friendly interface
- Control of heating pump and hot water pump
- Full fan modulation
- Exhaust gas temperature sensor (optional)
- Automatic fuel lack recognition
- Ignition mode and flame supervision mode
- Overheating alarm signal

BOILER CONSTRUCTION



CONTROLLER ECOMAX 200W



Version ECOWOOD PLUS is equipped with a modulating fan and a digital controller **ecoMAX 200**. The controller offers three different modes of fan modulation:

- TRADITIONAL on/off
- PID- modulates the fan speed according to the water temperature
- PIDS- with exhaust gas sensor, which modulates the fan speed according to the exhaust gas temperature. **This option can minimize the wood consumption up to 20%.**
- The boiler also controls the heating pump and hot water pump and can also be connected with a room thermostat.
- The boiler automatically recognizes the lack of fuel and passes to standby mode.



Fan modulation



Heating pump



Hot water pump



Summer/winter mode



Exhaust temperature regulation



Room thermostat

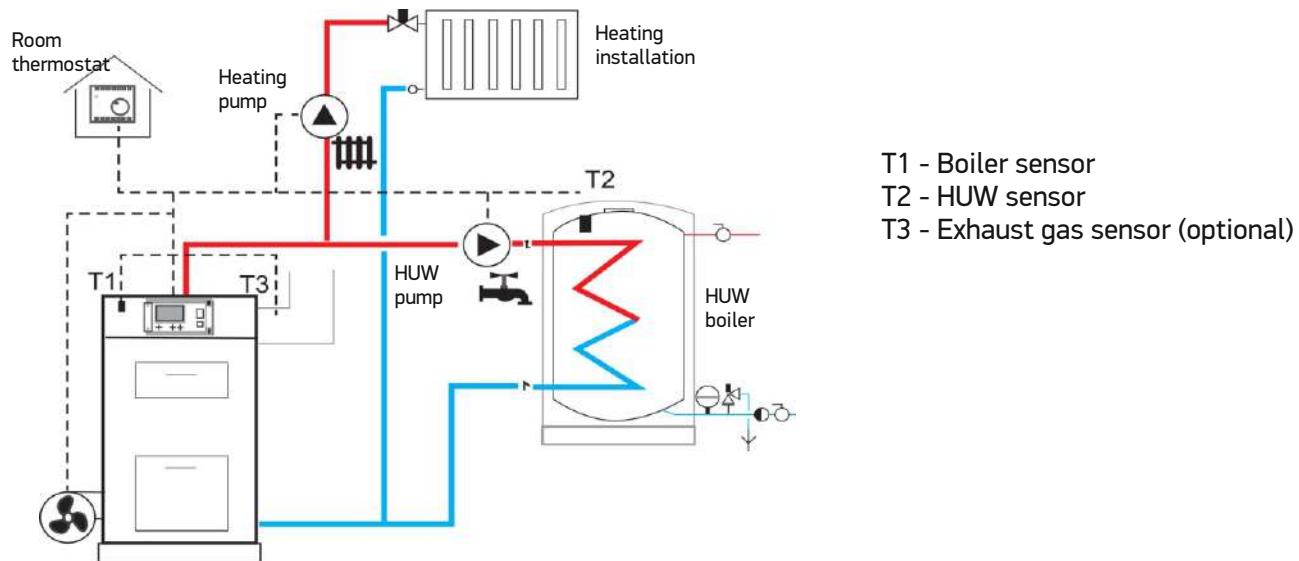


Alarm signals



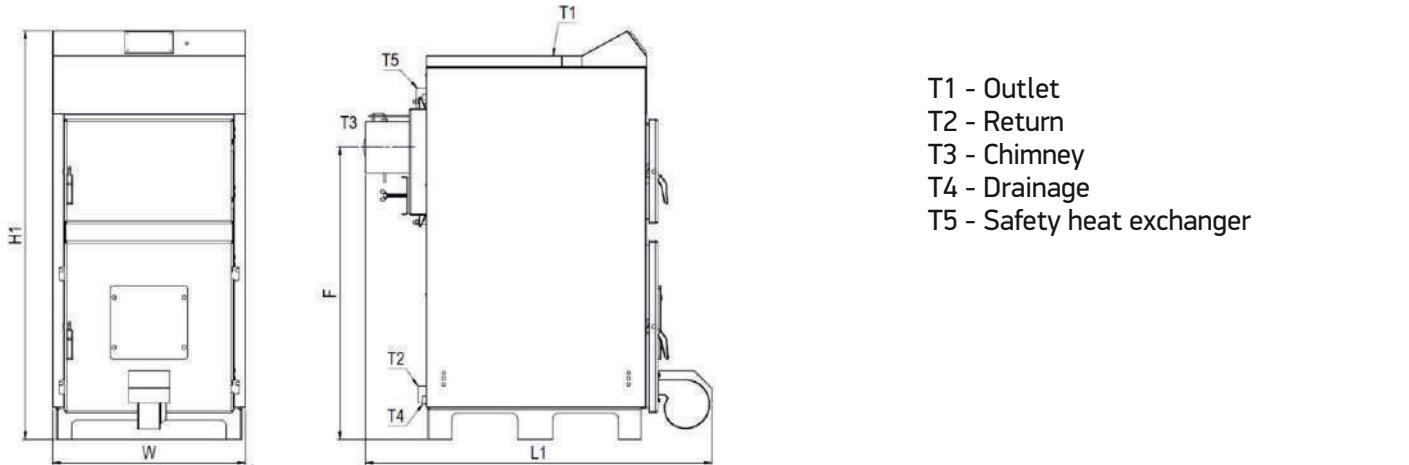
Overheating protection

INSTALLATION SCHEME



T1 - Boiler sensor
 T2 - HUW sensor
 T3 - Exhaust gas sensor (optional)

TECHNICAL DATA



Type	ECWP 25	ECWP 30	ECWP 40	ECWP 50	ECWP 60	ECWP 80	ECWP 100		
Nominal power	kW	25	30	40	50	60	80	100	
Efficiency	%	83	83	83	83	83	83	83	
Temperature max	°C	90	90	90	90	90	90	90	
Pressure max	bar	3	3	3	3	3	3	3	
Water contents	lit	100	120	130	170	190	370	440	
Weight	kg	259	282	307	355	385	675	765	
Electric supply	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50	
Dimensions	H1	mm	1280	1280	1280	1395	1395	1740	1740
	W	mm	530	530	530	660	660	785	785
	F	mm	880	880	880	1000	1000	1195	1195
	L1	mm	1085	1185	1285	1185	1285	1540	1740
	T1-T2	inch	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	inch	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	T5	inch	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"

MCL

solid fuel boiler 116-1.046 kW



MCL is the industrial series of solid fuel boiler, offering a wide power range (81-1.162 kW). It is designed for function on any type of solid fuel: wood, agricultural residues, carbon, briquettes, etc.

The boiler is equipped with three doors: upper door for cleaning of the heat exchanger, middle door for fuel loading and lower door for ash removal.

The wood grate is consisted of water cooled tubes for maximum efficiency.

On the middle door an inspection flange is positioned, which can also be used for mounting a typical oil or gas burner as an alternative or emergency solution.

The combustion is performed with a fan mounted on the back side of the boiler, and distributed evenly through an air distributor.

The boiler is equipped with advanced digital controller with fan modulation and many automatization functions for the boiler and heating installation.

FUELS



wood



briquettes



carbon



Full fan modulation



Exhaust gas sensor
Flame detection



Advanced digital control



3 years warranty

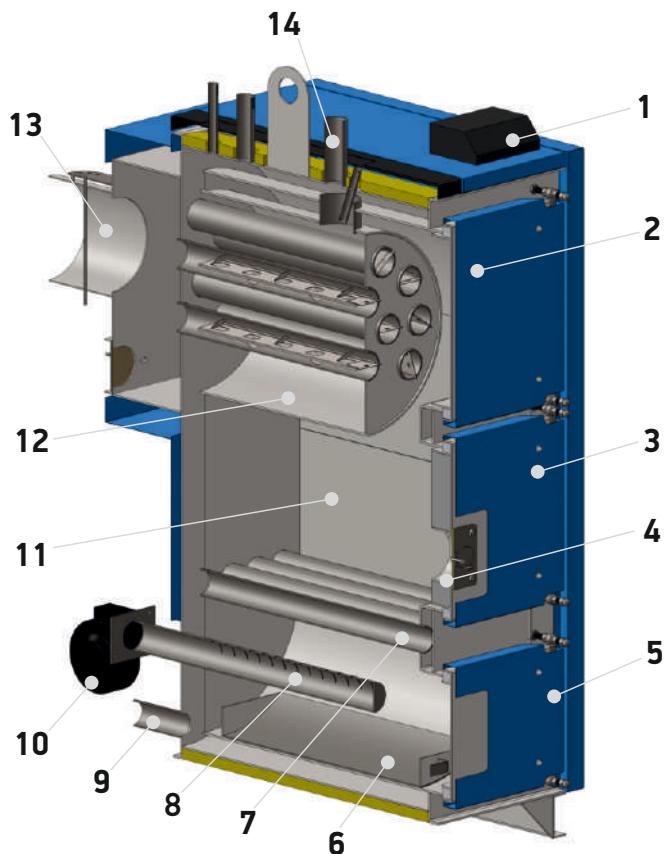


Safety devices and alarm signals

MAIN FEATURES

- Oval-shaped fire chamber for high volume under small dimensions
- Robust construction
- High efficiency
- Tubed heat exchanger
- Water-cooled wood grate for increased efficiency
- Digital controller with advanced control of the boiler and the heating installation
- Full fan modulation with exhaust gas temperature sensor
- Automatic fuel lack recognition
- Control of four pumps, hot water boiler, buffer tank, mixing valve control
- Weather sensitive control with external temperature sensor
- Control of an auxiliary boiler

BOILER CONSTRUCTION



1. Digital controller
2. Feeding door
3. Burner connection flange
4. Ash removal door
5. Ash box
6. Grate made of water tubes
7. Combustion air distributor
8. Boiler return
9. Modulating fan
10. Big volume fire chamber
11. Tube heat exchanger
12. Chimney
13. Boiler return
14. Digital controller

CONTROLLER ECOMAX 800D



The boiler is equipped with an advanced digital controller for extended control of the boiler and installation. The controller offers three different algorithms of fan modulation.

The design of the controller is modular, which enables BUS extension for control of further devices.

The controller automatically recognizes the lack of fuel and passes to standby mode, controls the heating pump, hot water pump and recirculation pump. It can control the hot water boiler, buffer tank, one zone mixing valve and can give command to an auxiliary boiler. A room thermostat can be also connected to the controller.

The controller is standard equipped with weather sensitive control, by means of an external temperature sensor.



Fan modulation



Weather control



Exhaust temperature regulation



Heating pump



Buffer control



Room thermostat



Hot water pump



Boiler switch



Alarm signals



Mixing valve pump



Mixing valve



Overheating protection

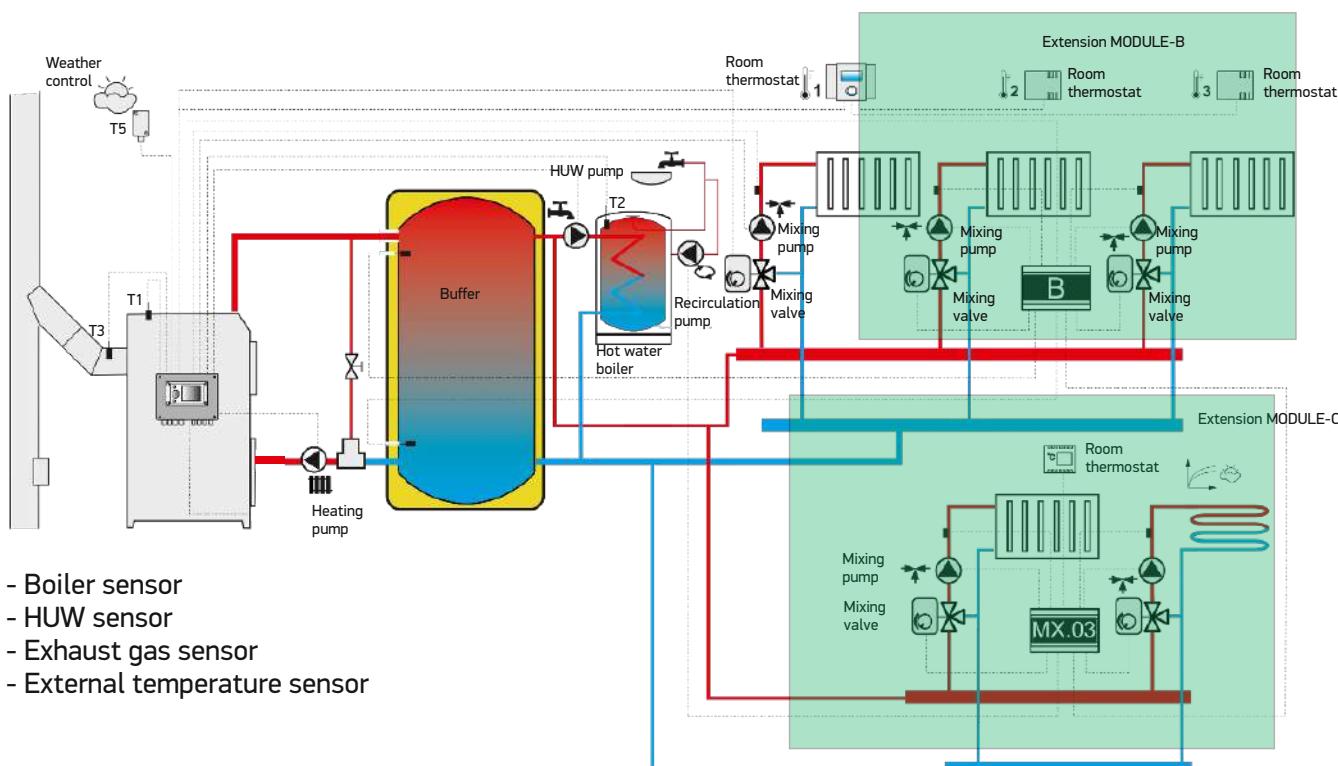


Recirculation pump



Summer/winter mode

INSTALLATION SCHEME

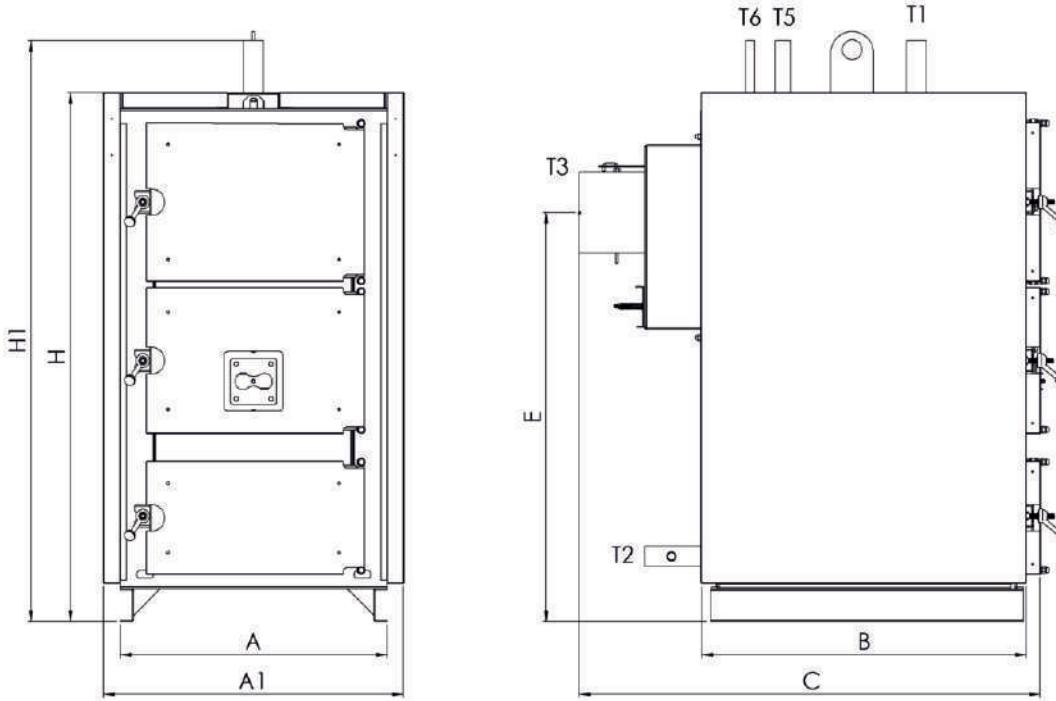


Extensions MODULE-B and MODULE-C are not standard boiler equipment.

TECHNICAL DATA

Type	Power	Temp. max.	Pressure max.	Feeding door	Max wood length	Efficiency	Water contents	Electric supply	Weight
	kW	°C	bar	mm	mm	%	lit	V/Hz	kg
MCL 100	116	90	3	590x370	1000	80	330	230/50	800
MCL 120	139	90	3	590x370	1150	80	360	230/50	880
MCL 150	174	90	3	590x370	1400	80	420	230/50	990
MCL 180	208	90	3	590x370	1600	80	550	230/50	1220
MCL 200	232	90	3	825x510	1000	80	620	230/50	1420
MCL 250	291	90	3	825x510	1250	80	720	230/50	1600
MCL 300	349	90	3	825x510	1500	80	820	230/50	2130
MCL 400	465	90	3	825x510	1750	80	920	230/50	2200
MCL 500	581	90	3	1180x665	1250	80	1420	230/50	3000
MCL 600	698	90	3	1180x665	1500	80	1860	230/50	3400
MCL 700	814	90	3	1180x665	1750	80	2440	230/50	4000
MCL 800	930	90	3	1180x665	2000	80	2650	230/50	4800
MCL 900	1046	90	3	1180x665	2250	80	2890	230/50	5500

DIMENSIONS



T1 - Outlet

T2 - Return

T3 - Chimney

T5 - Safety kit connection

T6 - Expansion vessel

Type	A1	A	B	H	H1	E	C	T3	T1-T2	T5	T6
mm											
MCL 100	920	810	1170	1585	1740	1245	1615	295	2 1/2	1 1/4	3/4
MCL 120	920	810	1320	1585	1740	1245	1765	295	2 1/2	1 1/2	3/4
MCL 150	920	810	1570	1585	1740	1245	2015	295	2 1/2	1 1/2	3/4
MCL 180	920	810	1820	1585	1740	1245	2265	295	2 1/2	1 1/2	3/4
MCL 200	1107	1000	1320	1970	2150	1510	1840	345	DN 80	2	2x3/4
MCL 250	1107	1000	1570	1970	2150	1510	2090	345	DN 80	2	2x3/4
MCL 300	1107	1000	1820	1970	2150	1510	2340	395	DN 100	2	2x3/4
MCL 400	1107	1000	2070	1970	2150	1510	2590	395	DN 100	2	2x3/4
MCL 500	1575	1475	1590	2465	2570	1870	2225	445	DN 100	2 1/2	2x3/4
MCL 600	1575	1475	1840	2465	2570	1870	2475	445	DN 125	2 1/2	2x3/4
MCL 700	1575	1475	2090	2465	2570	1870	2725	495	DN 125	2 1/2	2x3/4
MCL 800	1575	1475	2340	2465	2570	1870	2975	495	DN 150	3	2x3/4
MCL 900	1575	1475	2590	2465	2570	1870	3225	495	DN 150	3	2x3/4

OPTIONAL ACCESSORIES



MCL-F

It is a variation of the MCL boiler, with a flange for BIOFIRE furnace mounting. The flange can be positioned on the right or left side of the boiler. The boiler will be used as classic wood boiler and when the furnace will be mounted, it adds the possibility of function with pellet and biomass.



Safety heat exchanger

All models can be equipped with a safety heat exchanger for additional protection against overheating. The exchanger is made of copper pipe and is incorporated in the boiler body, surrounding the upper part of the fire chamber.



Extension MODULE-B

It is an extension module of the basic controller which enables the control of two additional mixing zones.



Modul ECOLAMBDA

For maximum efficiency of the combustion, the boiler can be equipped with a lambda module. The sensor is installed at the chimney of the boiler and regulates automatically the oxygen supply in order to achieve perfect combustion parameters.



ECOSTER 200

This device enables distant access to all the parameters of the boiler. The ECOSTER 200 is also equipped with room thermostat with a function of setting a temperature schedule. It is also possible to connect two more temperature sensors for greater functionality.



ECONET

It is an advanced communication module which facilitates remote control of operation of the boiler via PC computer with Internet access. User is given possibility to control all the parameters: temperature adjustments, pumps and mixers operation and monitoring of current regulator operation states. Clear visualization of the boiler operation history, presented in a form of charts is another crucial benefit for the user.



ECOSTER TOUCH

It is an integrated remote control over the heating installation. Gives access to all parameters to the user. Touch screen with color interface.

***Compatible only with series ECOMAX 800 or superior.**



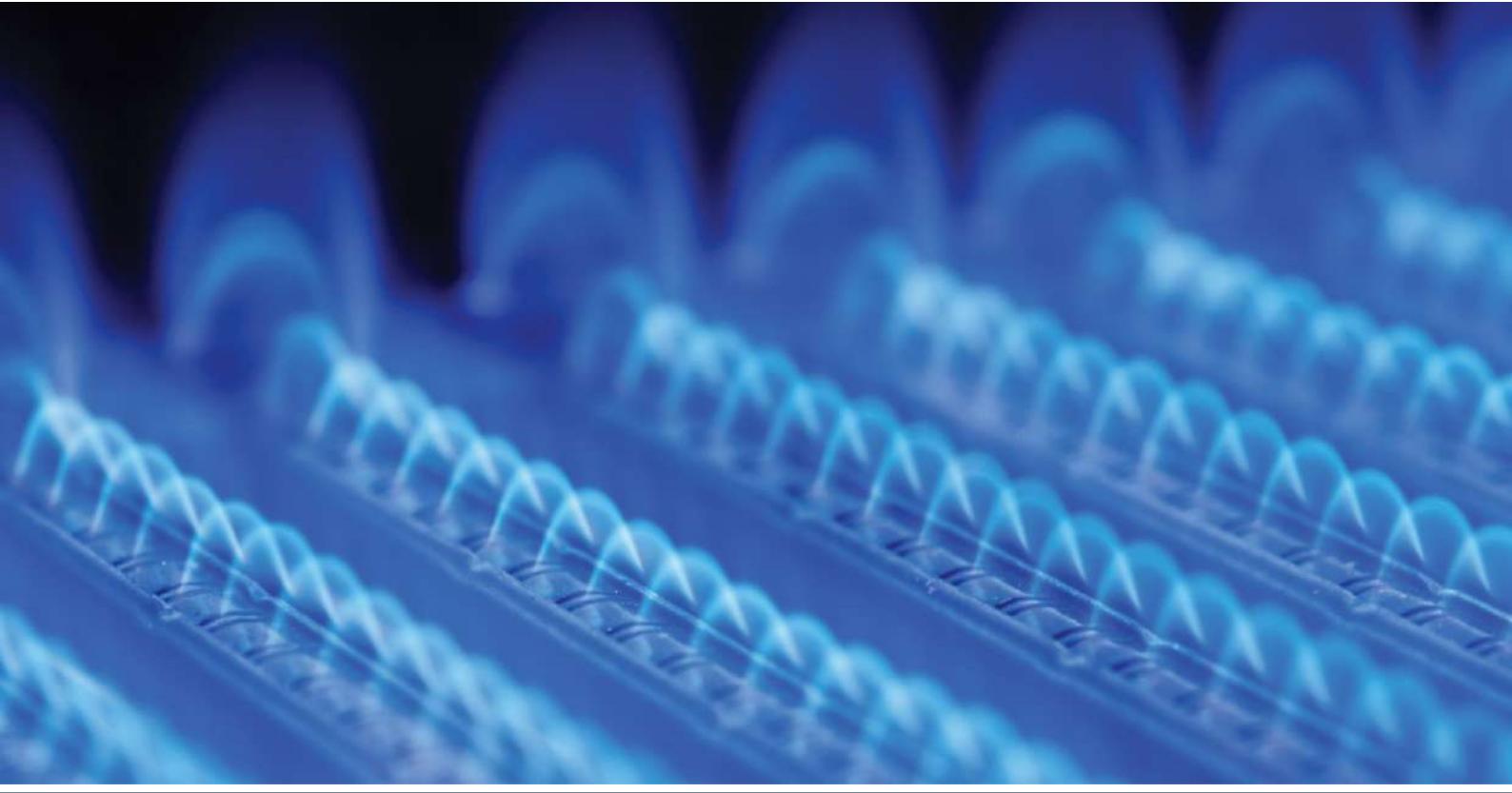
Exhaust gas sensor

It modulates the fan according to the exhaust gas temperature. **This option can reduce the fuel consumption up to 20%.**



Safety kit

It is intended for mounting on the safety connection of the boiler. It includes safety valve(s) (according to boiler capacity), one air-relief valve and one thermomanometer.



Oil & Gas

Steel boiler for liquid and gaseous fuels

LIGHT OIL • NATURAL GAS • LPG • WASTE OIL

Having a long experience on oil and gas boilers since the beginning of its history, THERMOSTAHL offers high quality and certified products according to newest technology trends.

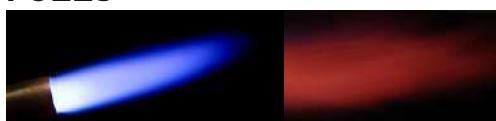
Main features of THERMOSTAHL steel boilers is liability, long life, fuel savings and energy efficiency.

ENP

gas-liquid fuel boiler 35-3.480 kW



FUELS



gas/liquid

ENERSAVE is a highly efficient pressurized steel boiler for function on gas or liquid fuels. The function is based on reversed flame in the fire chamber. All surfaces coming in contact with fire are cooled by water.

Its construction is cylindrical, with large fire chamber, improved heat exchanger surfaces and high performance turbinators. It is of high back-pressure in the fire chamber, designed to function with pressurized liquid or gas burners (the burner is not included).

The boiler has a robust construction which is ensured with quality control at every production step. Nominal working pressure is 6 bar. For models ENP 100-600, modular construction of the boiler is available on request.

Suitable control panel for one or two-stage burners.

Tested and CE marked according to the European Standard for boilers EN 303-3.

P235GH

High quality materials



Heating pump control



Control panel for one/two stage burner



3 years warranty

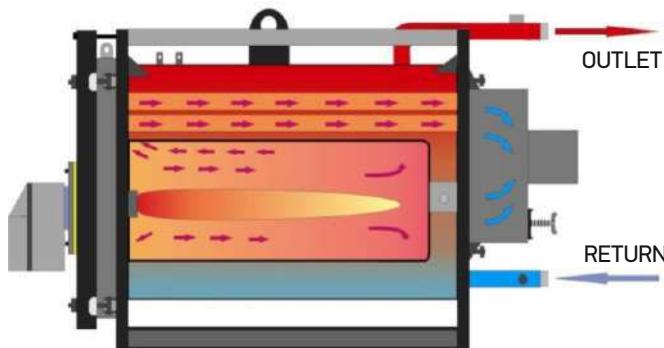


Safety thermostat

MAIN FEATURES

- Round-shaped fire chamber with large heat exchange surface
- Robust construction, without elements
- High efficiency, up to 93%
- Comply to requirements of the latest European Energy Efficiency Directive
- Tubed heat exchanger with stainless steel turbinators
- Cooled-bottom construction
- Control panel equipped with safety thermostat. Provides thermostatic control of the burner and pump
- Compatible with all burners of European origin
- Working pressure 6 bar
- High quality materials and components

WORKING PRINCIPLE

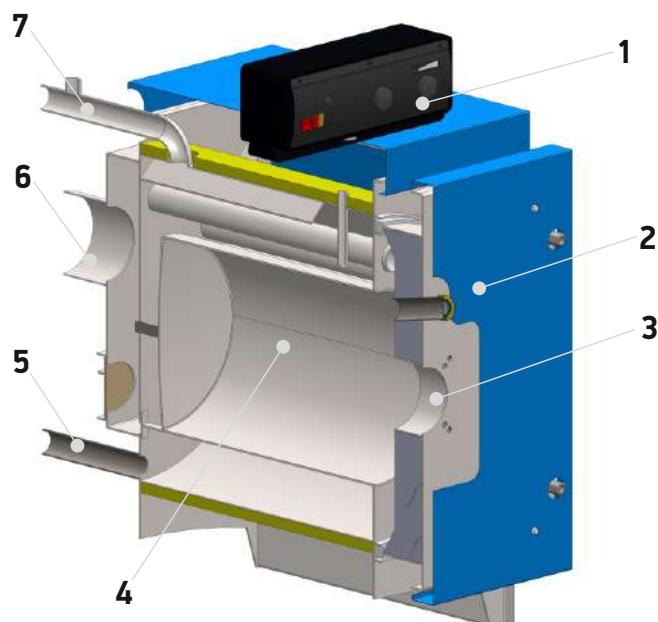


ENP hot water boilers have high back-pressure in the fire chamber, designed to function with pressurized liquid or gas burners.

The function is based on reversed flame in the fire chamber, with three passes of the exhaust gases. All surfaces coming in contact with fire are water cooled. Most of the heat is transferred to water through radiation. The first two passes are in the fire chamber, then the exhaust gases are guided to the peripheral smoke tubes, in which the third pass is realized. Special turbinators are positioned inside the smoke tubes to increase boiler's efficiency.

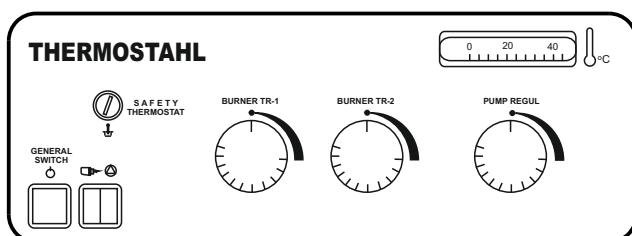
After passing the smoke tubes the exhaust gases are guided to the smoke box and then to the chimney.

BOILER CONSTRUCTION



1. Control panel
2. Boiler door
3. Burner mounting flange
4. Fire chamber
5. Boiler return
6. Chimney diameter
7. Boiler return

CONTROL PANEL EN-1 / EN-2S



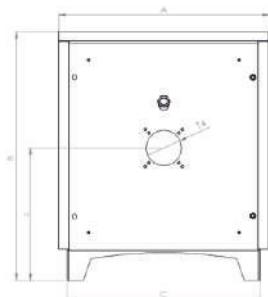
Control panel functions:

- heating pump
- burner (one or two-stage)
- temperature measurement
- overheating protection (safety thermostat)
- function indication lamps
- room thermostat connection

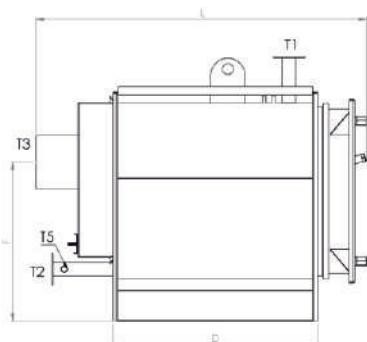
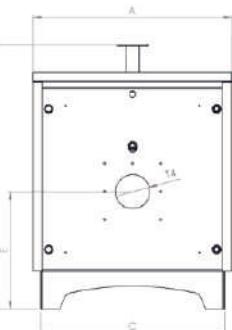
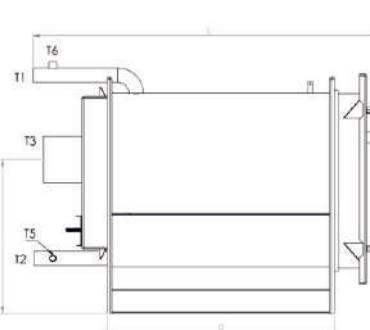
TECHNICAL DATA

Type	Power		Temp. max.	Pressure max.	Back pressure	Fire chamber volume	Water contents	Heated surface	Pressure drop $\Delta T=20K$	Effici- ency	Weight
	Mcal/h	kW									
ENP 30	30	35	90	6	2...4	32	57	1,1	20	91,5	145
ENP 60	60	69	90	6	4...6	57	107	1,8	30	91,5	262
ENP 80	80	93	90	6	6...10	78	138	2,5	50	91,5	295
ENP 100	100	116	90	6	6...10	148	180	3,7	60	91,5	439
ENP 120	120	139	90	6	8...15	165	198	4,1	70	91,5	465
ENP 160	160	186	90	6	8...15	210	244	5,1	90	91,5	519
ENP 200	200	232	90	6	10...20	218	330	6,3	120	93	714
ENP 250	250	291	90	6	10...20	279	400	7,8	150	93	796
ENP 300	300	349	90	6	10...20	340	475	9,4	180	93	880
ENP 350	350	407	90	6	10...20	432	590	10,1	180	93	1.193
ENP 400	400	465	90	6	10...20	432	565	11,9	220	93	1.236
ENP 500	500	581	90	6	10...20	540	645	14,4	220	93	1.410
ENP 600	600	698	90	6	10...20	648	740	16,8	250	93	1.543
ENP 700	700	814	90	6	30...40	713	933	21,7	300	93	2.120
ENP 800	800	931	90	6	30...40	862	1.070	25,3	350	93	2.300
ENP 900	900	1042	90	6	30...40	1.010	1.232	29,0	350	93	2.480
ENP 1.000	1.000	1.163	90	6	30...40	1.010	1.200	30,1	350	93	2.580
ENP 1.300	1.300	1.453	90	6	30...40	1.159	1.330	32,6	400	93	2.770
ENP 1.500	1.500	1.740	90	6	40...60	1.307	1.467	36,3	400	93	2.860
ENP 1.650	1.650	1.919	90	6	40...60	1.456	1.629	39,9	400	93	3.160
ENP 1.800	1.800	2.093	90	6	40...60	1.598	3.115	42,6	450	93	4.455
ENP 2.000	2.000	2.326	90	6	40...60	1.864	3.438	48,0	450	93	4.570
ENP 2.500	2.500	2.887	90	6	40...60	2.131	3.761	53,4	450	93	5.250
ENP 3.000	3.000	3.480	90	6	40...60	2.397	4.084	58,9	450	93	5.800

DIMENSIONS



ENP 30-160

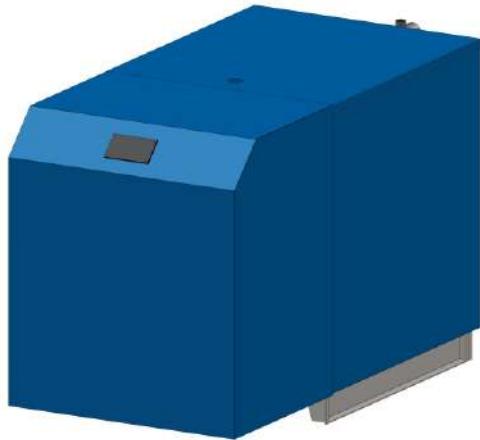


ENP 200-3.000

Type	A	B	C	D	E	F	L	T1-T2	T3	T4	T5	T6
	mm							inch	mm		inch	
ENP 30	660	815	595	510	432	537	900	1 1/4	139	106	1/2	1/2
ENP 60	750	970	685	665	510	650	1.050	1 1/2	159	125	1/2	3/4
ENP 80	750	970	685	865	510	650	1.250	2	159	125	1/2	3/4
ENP 100	855	1.085	795	965	550	665	1.460	2	193	146	1/2	1
ENP 120	855	1.085	795	1.065	550	665	1.560	2	193	146	1/2	1
ENP 160	855	1.085	795	1.315	550	665	1.810	2 1/2	193	146	1/2	1 1/4
ENP 200	1.010	1.210	955	1.070	585	800	1.540	2 1/2	244	160	1	-
ENP 250	1.010	1.210	955	1.320	585	800	1.790	2 1/2	244	160	1	-
ENP 300	1.010	1.210	955	1.570	585	800	2.040	3	293	160	1	-
ENP 350	1.245	1.510	1.180	1.325	755	1.015	2.170	DN 80	343	220	1 1/4	-
ENP 400	1.245	1.510	1.180	1.325	755	1.015	2.170	DN 80	343	220	1 1/4	-
ENP 500	1.245	1.510	1.180	1.575	755	1.015	2.420	DN 100	343	220	1 1/4	-
ENP 600	1.245	1.510	1.180	1.825	755	1.015	2.670	DN 100	343	220	1 1/4	-
ENP 700	1.495	1.910	1.440	1.595	920	1.080	2.535	DN 125	343	270	1 1/4	-
ENP 800	1.495	1.910	1.440	1.845	920	1.080	2.785	DN 125	395	270	1 1/4	-
ENP 900	1.495	1.910	1.440	2.095	920	1.080	3.035	DN 125	395	270	1 1/4	-
ENP 1.000	1.495	1.910	1.440	2.095	920	1.080	3.035	DN 125	395	270	1 1/4	-
ENP 1.300	1.495	1.910	1.440	2.345	920	1.080	3.285	DN 150	485	270	1 1/4	-
ENP 1.500	1.495	1.910	1.440	2.595	920	1.080	3.535	DN 150	485	270	1 1/4	-
ENP 1.650	1.495	1.910	1.440	2.845	920	1.080	3.785	DN 150	485	270	1 1/4	-
ENP 1.800	1.940	2.235	1.850	2.100	1.250	1.500	3.200	DN 150	580	380	1 1/4	-
ENP 2.000	1.940	2.235	1.850	2.350	1.250	1.500	3.400	DN 150	580	380	1 1/4	-
ENP 2.500	1.940	2.235	1.850	2.600	1.250	1.500	3.650	DN 200	580	380	1 1/4	-
ENP 3.000	1.940	2.235	1.850	2.850	1.250	1.500	3.900	DN 200	580	380	1 1/4	-

ENERDENSE

liquid-gas fuel condensing unit 127-1.146 kW



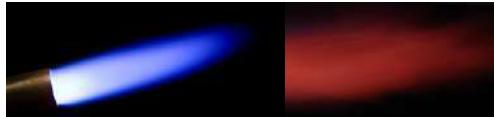
ENERDENSE is a complete condensing unit consisting of a high efficiency steel boiler with function on liquid or gaseous fuel, a condensing heat exchanger and an advanced digital controller.

The heat exchanger is made of special inox steel, with high corrosion resistance, and unique tear-shape tubes design which ensures optimal heat transfer from the exhaust gas to the water.

The working principal is based on the function of two heat exchangers. The primary heat exchanger ensures heat transfer to the water until the exhaust outlet at a temperature of 220°C. The exhaust gases are then guided to the secondary heat exchanger where they are further cooled down until they reach condensing temperature. The heat obtained by the condensing heat exchanger is used to pre-heat the water entering the boiler. The final temperature of the exhaust gas is 55°C.

The unit is designed to function with liquid or gaseous fuel burner.

FUELS



gas/liquid



Condensing technology



Heating pump control



Advanced function controller



3 years warranty

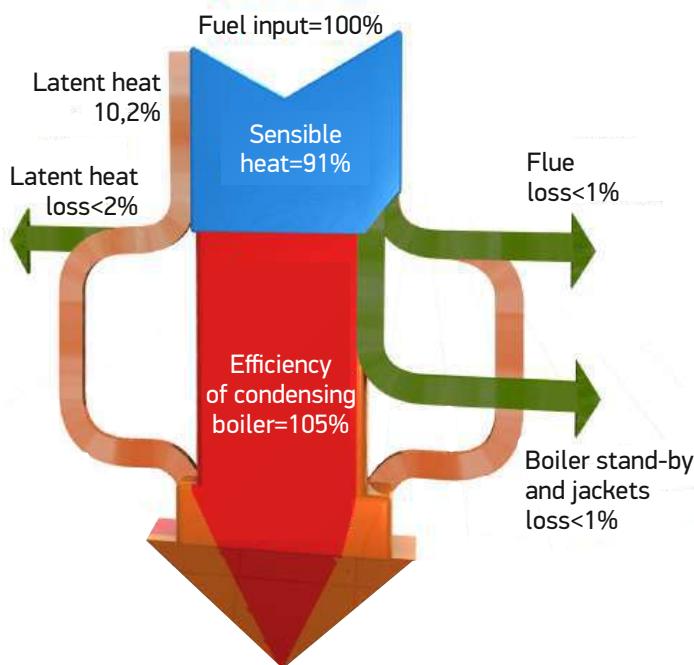


Safety function

MAIN FEATURES

- Highly efficient solution up to 3.000 kW
- Total efficiency up to 105%
- Modular construction with external condensing heat exchanger
- Suitable for function with gaseous and liquid fuels
- Heat exchanger made of high-grade corrosion resistant stainless steel
- Special tear-shape tubes design for increased heat transfer efficiency
- Low emissions-eco friendly function
- Low fuel consumption

WORKING PRINCIPLE



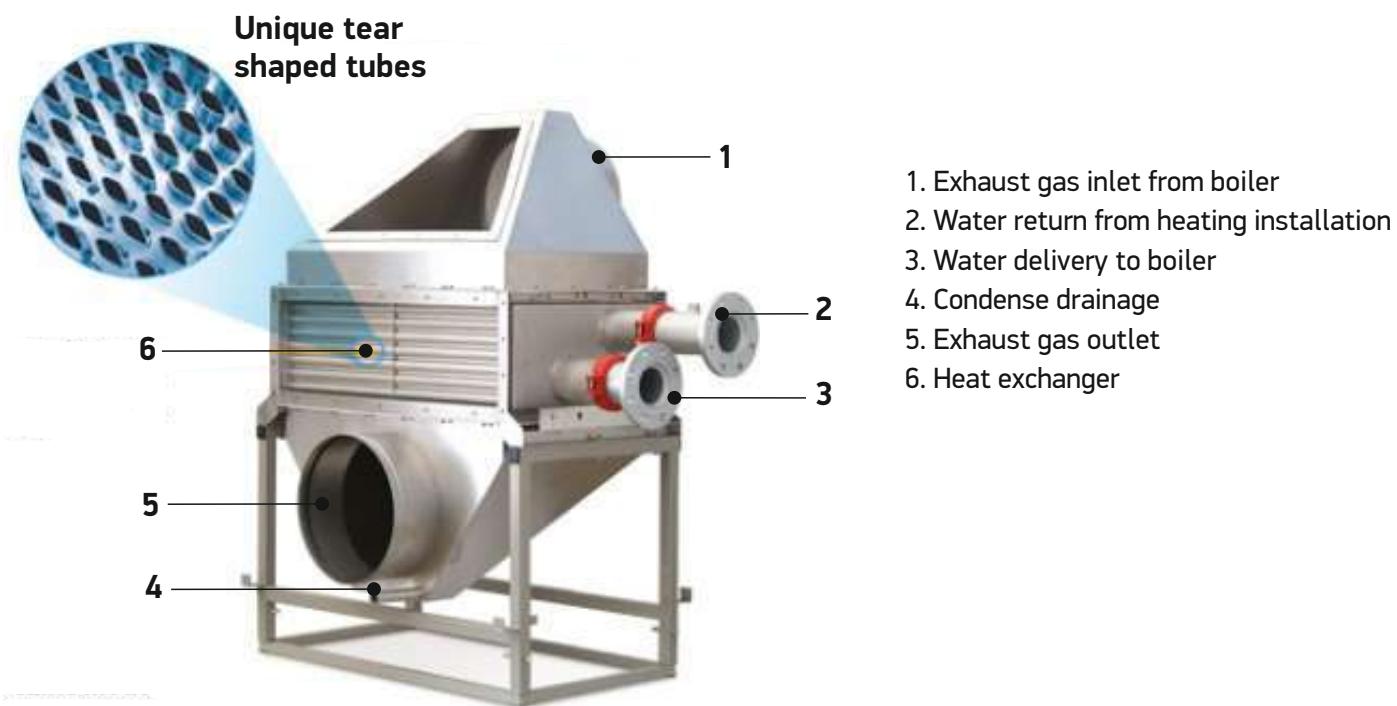
In a conventional boiler, the water is heated through the heat of combustion, and the resulting flue gases are guided to the chimney. As a result, the energy contained in the flue gas is lost.

Condensing technology exploits these gases, which consist to a large extent of hot water vapour. It extracts the flue gas heat and feeds the energy obtained into the heating circuit.

In order to extract this energy, water vapour must condense. It does this at a temperature of below 55 °C. The condensing boiler cools the steam through a specially designed heat exchanger. The energy gained is used to preheat the cold heating water. The hot water then passes into the primary heat exchanger where it is heated further to reach the desired temperature. During this process, small amounts of waste water occur which must be disposed of at the drainage.

Condensing boilers must be connected to a plastic pipe for the flue gas.

CONDENSING HEAT EXCHANGER CONSTRUCTION



TECHNICAL DATA

Type	Power temp. 50/30°C	Power temp. 80/60°C	Temp. max.	Pressure max.	Water connections	Chimney diameter	Water contents	Efficiency temp. 50/30°C	Efficiency temp. 80/60°C	Weight
	kW	kW	°C	bar	mm	mm	lit	%	%	kg
ENDS 100	127	116	90	6	DN 65	200	180	102	91,5	439
ENDS 120	153	139	90	6	DN 65	200	198	102	91,5	465
ENDS 140	178	163	90	6	DN 65	200	215	102	91,5	493
ENDS 160	204	186	90	6	DN 65	200	244	102	91,5	519
ENDS 200	255	232	90	6	DN 65	200	330	105	93	714
ENDS 250	318	291	90	6	DN 65	300	400	105	93	796
ENDS 300	382	349	90	6	DN 65	300	475	105	93	880
ENDS 350	446	407	90	6	DN 65	300	590	105	93	1.193
ENDS 400	509	465	90	6	DN 65	300	565	105	93	1.236
ENDS 500	637	581	90	6	DN 100	400	645	105	93	1.410
ENDS 600	764	698	90	6	DN 100	400	740	105	93	1.543
ENDS 700	891	814	90	6	DN 100	400	933	105	93	2.120
ENDS 800	1019	931	90	6	DN 100	400	1.070	105	93	2.300
ENDS 900	1146	1042	90	6	DN 100	400	1.232	105	93	2.480



Solar Systems

Solar systems for hot water production

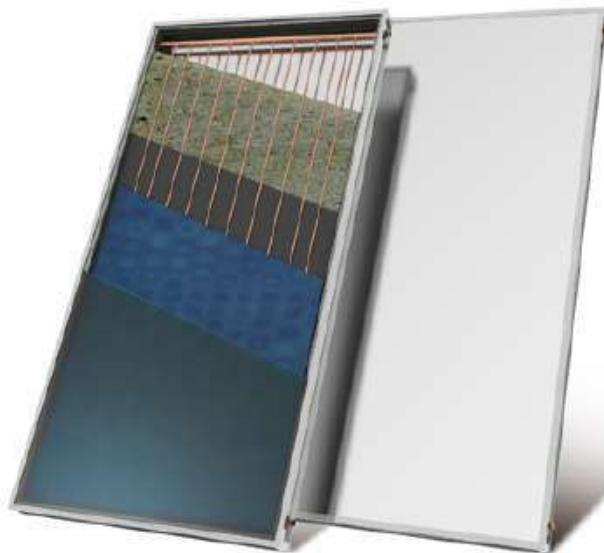
FLAT SOLAR PANELS • SOLAR SYSTEMS

The sun is an endless source of life and energy. Sun can provide us with energy for heating and hot water production through the whole year. Solar energy is completely clean, does not produce emissions, is absolutely renewable and endless.

Thanks to THERMOSTAHL solar systems, all this energy can be absorbed and used in the most efficient way all year around. All our solar systems are characterized by high technology and maximum efficiency.

EVO

flat solar panels



MAIN FEATURES

- Selective surface solar
- Collector made completely of aluminium
- Water piping made of copper Ø22 and Ø10
- Solar radiation absorbance $\alpha=95\%$ ($\pm 2\%$) - reflection factor $\varepsilon=5\%$ ($\pm 2\%$)
- Strong thermal insulation of compressed rockwool 50 mm thickness, $\lambda=0,032 \text{ W/m}^2\text{K}$
- High quality tempered glass for maximum solar captivity and strength
- Sealing with EPDM rubber with UV protection and silicon tip EPDM resistant to high temperatures

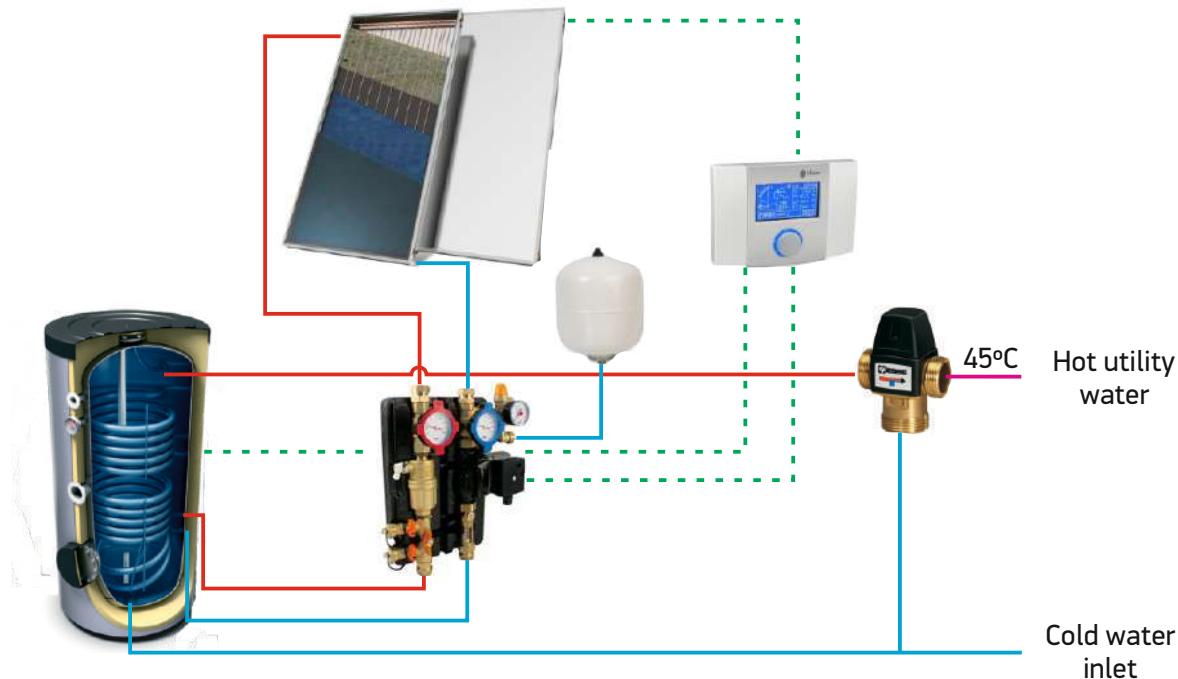


TECHNICAL DATA

Type		EVO 1.5	EVO 1.75	EVO 2.0	EVO 2.3	EVO 2.5	EVO 2.75
External dimensions	m	1,01x1,48	1,01x1,75	1,01x1,98	1,16x1,98	1,23x1,98	1,35x1,98
Absorbing surface	m^2	1,50	1,75	2,00	2,30	2,50	2,75
Max working temperature	bar	10	10	10	10	10	10
Max working temperature	$^\circ\text{C}$	165	165	165	165	165	165
Water volume	lit	0,96	1,12	1,28	1,47	1,60	1,76
Connections	mm	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22
Solar absorbance α	%	95	95	95	95	95	95
Reflection factor ε	%	5	5	5	5	5	5
Collector efficiency	%	67	67	67	67	67	67
Thermal losses-a1	%	3,95	3,95	3,95	3,95	3,95	3,95
Thermal losses-a2	%	0,016	0,016	0,016	0,016	0,016	0,016
Weight	kg	30	35	40	46	50	55

SS SOLAR

forced circulation solar system



Solar system is a complete solution for efficient hot water production. The system includes:

- Selective surface solar collectors
- Roof support (inclined or flat)
- Installation kit (piping with insulation, safety valve, air relief valve, connection fittings, antifreeze fluid)
- Hot water boiler with 2 serpentine
- Pump station
- Electronic controller
- Solar expansion vessel
- Thermostatic 3-way valve

TECHNICAL DATA

Type	SS 150	SS 200	SS 300	
Indicative nr. of users	2-3	3-4	4-5	
Average daily consumption of hot water	lit/day	100-150	150-200	300-330
Max available quantity of water	lit	147	225	330
Boiler volume	lit	150	200	300
Boiler type		150-2S	200-2S	300-2S
Nr. of collectors		1	2	3
Collector type		EVO 2.0	EVO 2.0	EVO 2.0
Total absorbing surface	m ²	2	4	6
Expansion vessel	lit	18	18	24
Max working temperature	°C	140	140	140
Max working pressure	bar	6	6	6
Mixing temperature	°C	45	45	45

ENERSOLAR

natural circulation solar system



THERMOSAHL ENERSOLAR is a natural circulation system for hot water production from solar energy.

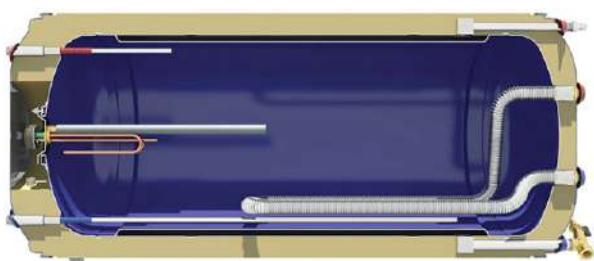
The solar collectors have selective surface for maximum absorbance and are covered with high strength tempered glass.

The water tank has an internal glass coating and external insulation of injected polyurathane for minimum heat losses.

The system is very easy to instal and ensures safe and efficient function. It is also equipped with electrical resistance with safety thermostat and anode protection. Optionally, it can be equipped with serpentine heat exchanger for connection with the central heating boiler.

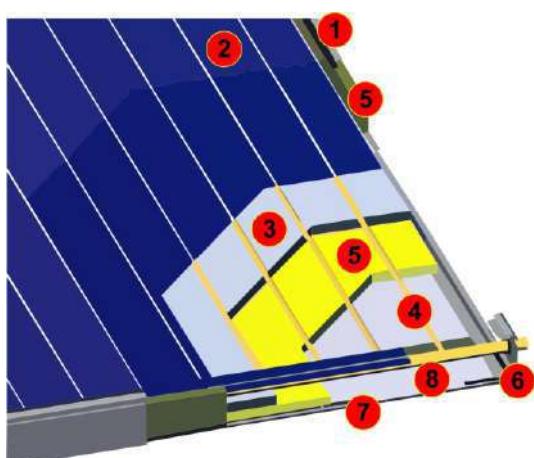
The system comes together with metal support for easy installation on flat or inclined roof.

BOILER CONSTRUCTION



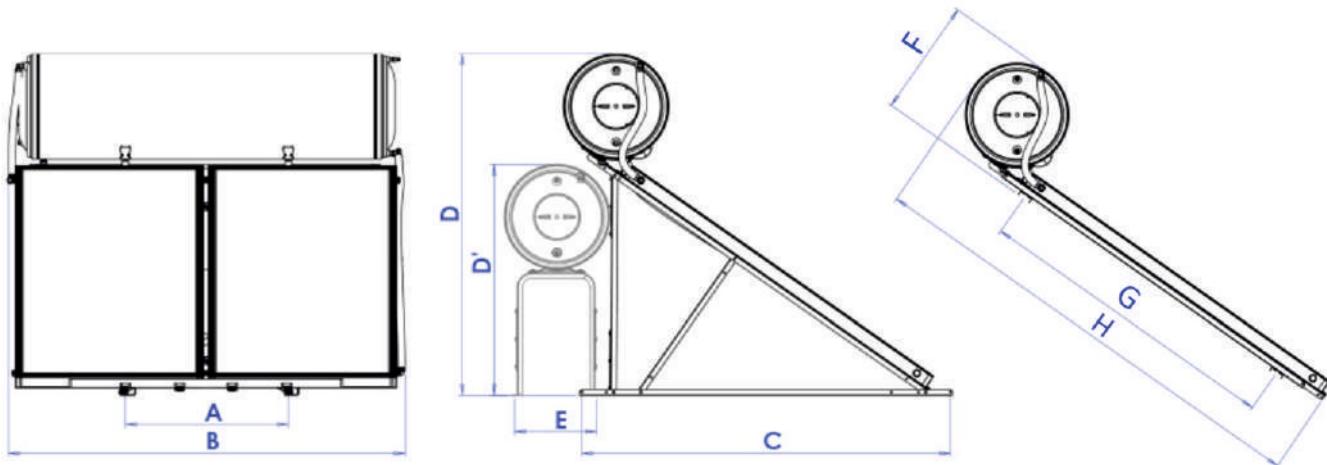
- Made of cold rolled steel 2,5mm thickness
- Glass internal coating
- Thermal external insulation from expanded polyurethane
- External protection with electrostatically painted steel
- Anode protection
- Big round flange for easy cleaning
- Electrical resistance 4 kW with bipolar safety thermostat
- INOX serpentine heat exchanger for connection with boiler

SOLAR COLLECTOR CONSTRUCTION



- Selective surface solar
- Collector made completely of aluminium
- Water piping made of copper Ø22 and Ø10
- Solar radiation absorbance $\alpha=95\% (\pm 2\%)$ - reflection factor $\epsilon=5\% (\pm 2\%)$
- Strong thermal insulation of compressed rockwool 50 mm thickness, $\lambda=0,032 \text{ W/m}^2\text{K}$
- High quality tempered glass for maximum solar captivity and strength
- Sealing with EPDM rubber with UV protection

TECHNICAL DATA



Type		SLE 120/2	SLE 160/2.6	SLE 160/3	SLE 200/3	SLE 200/4
Water tank volume	lit	120	160	160	200	200
Nr. of solar collectors		1	1	2	2	2
Collector dimensions	m	1,00x2,00	1,28x2,00	1,00x1,50	1,00x1,50	1,00x2,00
Absorbing surface	m ²	2,0	2,6	3,0	3,0	4,0
Indicative nr. of users		1-2	2-3	2-4	3-5	3-5
Installation angle				35-45°		
Electrical resistance	kW/V			4 / 230		
Hot water connections	inch	1/2"	1/2"	1/2"	1/2"	1/2"
Heat exchanger connections	inch	3/4"	3/4"	3/4"	3/4"	3/4"
Hot water working pressure	bar	10	10	10	10	10
Serpentine working pressure	bar	3,5	3,5	3,5	3,5	3,5
Serpentine surface	m ²	0,62	0,91	0,91	1,28	1,28
Serpentine volume	lit	8,6	12,9	12,9	18,3	18,3
Dimensions	A	mm	70	90	90	90
	B	mm	112	140	219	219
	C	mm	203	203	153	203
	D	mm	189	189	160	189
	E	mm	45	45	45	45
	D'	mm	128	128	128	128
	F	mm	65	65	65	65
	G	mm	172	172	131	172
	H	mm	261	261	211	261



Industrial Applications

Custom solutions for industrial applications

BIOMASS • NATURAL GAS • OIL • LPG • WASTE OIL

Our industrial range covers every type of application: heating with water or hot air, industrial heating, steam production. We offer a variety of fuels according to the needs of each application.

The solution can be personalized for each individual application in order to match the specific needs. Our industrial boilers are specially designed for high efficiency, reliability and long life-span.

ESTO

industrial biomass boilers 200-1.500 kW



ESTO is a fully automatic pellet-biomass-woodchips boiler for industrial applications (320-1.500 kW). The boiler construction is 3-pass for high efficiency up to 90%.

The feeding system is bi-ax for protection against fire return. The fuel transportation is performed with two parallel feeders, for transportation of big size fuel without blockage. The feeding system can be also equipped with mixing mechanism for wood chips or sawdust.

The boiler comes standard with automatic ignition by means of electrical resistance.

The boiler is equipped with exhaust fan, which ensures optimum circulation of the exhaust gases and heat transfer. The combustion air is electronically regulated independently for primary and secondary air.

The operation of all the devices is controlled by an industrial specifications control panel with an electronic controller, which offers numerous functional and safety features.

The boiler can optionally be equipped with automatic ash extraction, ash cyclone, pneumatic tubes cleaning system.

FUELS



pellet



agropellets



cereals



woodchips



sawdust



fruit shells



olive husks



wood



briquettes



Automatic power modulation



Multifuel function



Advance control and safety features



Automatic ignition and
exhaust gas temperature control



Automatic ash extraction and tubes cleaning



Automatic error diagnosis and remote GSM control

MAIN FEATURES

- Industrial multifuel boiler with automatic function on any type of
- Possibility to manually function on wood
- Automatic power modulation from 30% up to 100%
- 3-pass boiler construction with horizontal tubes exchanger
- High performance feeding system with double feeder for big size fuel
- Mixing mechanism for light fuel like wood chips or sawdust
- Individual electronic control of primary and secondary air
- High efficiency >90%
- Electronic controller with advanced control of the boiler and many safety features
- Safety against back-burn with mechanical and electronic water valve, and feeder temperature sensor supervision
- Water flow control and pressure control of the boiler
- Automatic ash extraction
- Pneumatic cleaning of the tubes

BOILER CONSTRUCTION

The boiler is designed for automatic function on any kind of biomass fuel: pellet, agropellet, agricultural origin biomass (fruit husks, olive kernels), woodchips, sawdust, remains of wood processing.

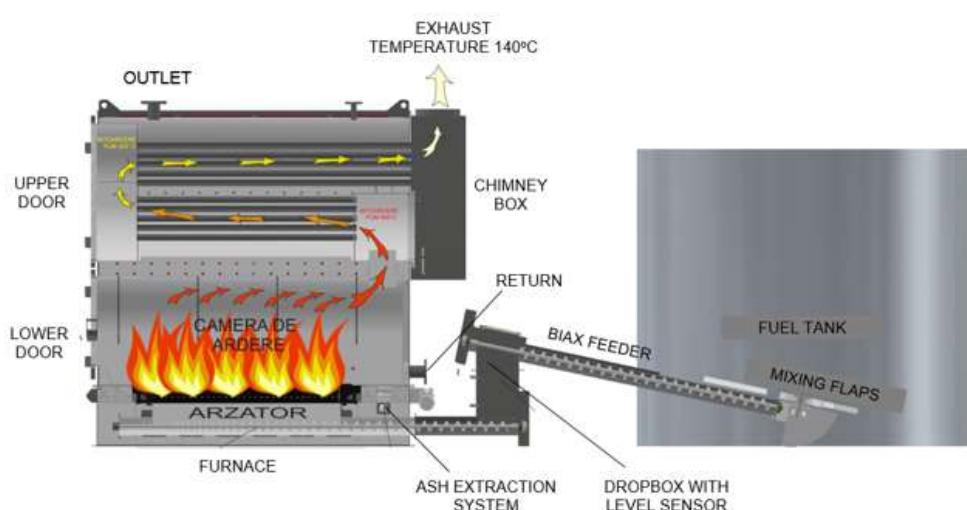
The boiler construction is 3-pass, one pass in the fire chamber and two passes in individual tube series. The flame is developed in the fire chamber, where the heat transfer is mainly through radiation, and then the exhaust gases are guided through the tubed heat exchanger, where the heat transfer is through conduction. The exhaust gases are guided by means of an exhaust ventilator.

The complete boiler function is automatic. The fuel is automatically loaded from the silo by means of a mixing

mechanism, and then guided by two parallel screw feeders in order to transport fuel up to 70mm diameter, until the drop zone, where they drop to a second feeder. This construction protects against back-burn and blocking.

The furnace is made of refractory cast iron elements, designed with air holes for the necessary combustion air delivery. There are individual channels for the primary and secondary air, and the electronic controller controls all the time the report between primary-secondary air and fuel loading, in order to achieve perfect combustion.

This boiler construction ensures a high efficiency of up to 90%.



FEEDING SYSTEM



The feeding system is able to transport all kinds of biomass with diameter up to 70mm, including sawdust and wood chips up to G50, W 25% (ONORM 7133).

The feeding system is bi-ax, with two levels which are controlled by individual motors. Between the two levels there is fuel level sensor, which protects against overloading and automatically recognizes lack of fuel.

It has two parallel feeders, which enable transportation of big size fuel without blockage.

The mixing mechanism rotates by an individual reducer, and is equipped with high resistance steel pallets.

The feeding system can be mounted parallel or perpendicular to the boiler position.

- Maximum operational safety.
- Maximum efficiency against blockage.
- Optimal function with any type of storage tank (square, circular, rectangular).

BOILER CONTROLLER



The boiler is equipped with an industrial specifications control panel, with an electronic touch screen controller.

The controller controls the complete boiler function with all the devices, as well as the boiler pump, and has a constant supervision over the system with various safety controls.

It automatically modulates the boiler power from 30% to 100% according to the heat demand.

It can be connected with lambda sensor for advanced combustion control as well as GSM module for remote control.

 Easy Touch	Color LCD display with touch screen	 Automatic power modulation	 Automatic ignition
 Individual control of primary and secondary air		 Ash extraction control	 Fumes sensor control
 Feeder		 Ash cyclone control	 GSM remote control
 Exhaust fan		 Electronic water extinguishing	 Visual and audio alarm signals
 2 heating pumps		 Boiler pressure control	 Overheating protection

OPTIONAL ACCESSORIES



Automatic ash extraction

Ash channel with mechanical screw conveyor for automatic ash extraction from the fire chamber and the heat exchanger tubes. The conveyor is controlled by an individual motoreducer and time interval. The ash is accumulated in a big capacity ash box.



Tubes pneumatic cleaning

Special air nozzles are mounted on the upper door, equipped with quick-action air valves and compressed air tank with pressure switch and safety valve. This system can be set at a selectable cleaning interval to automatically clean the ash from the tubes.



Lambda sensor

The lambda sensor is installed on the chimney and optimized the combustion by regulating fan speed and individual regulation of primary and secondary air. This way the combustion is perfect every time.



GSM remote control

The GSM system is mounted on the controller and to all the control and actioning equipment of the boiler. This gives the possibility of remote control of the boiler working parameters, alarms, and individual control of the boiler equipment.

Ash mutlicyclon

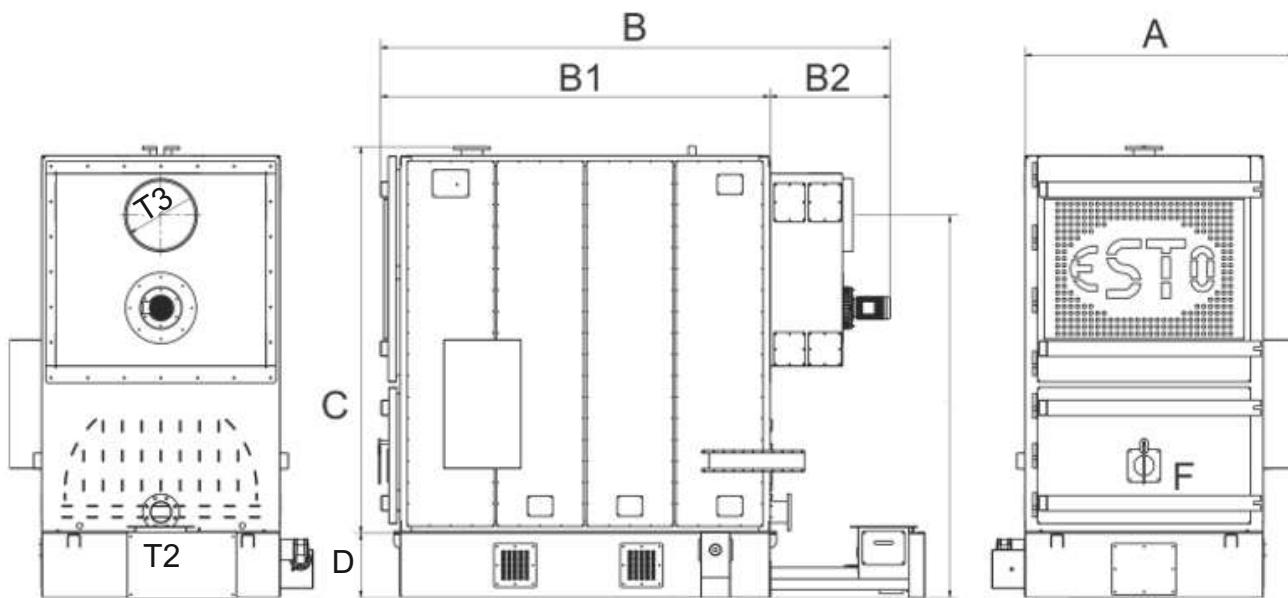
Ash mutlicyclone is controlled by an individual fan and can restrain ash particles in the exhaust gases, with efficiency up to 99%.



Safety kit

Safety kit is specially designed for every boiler and is equipped with: 2 safety valves set at 3 bar, automatic air-relief valve, pressure sensor, fluxostat, thermo-manometer.

TECHNICAL DATA



Type	Nominal power	Max. temp.	Max. pressure	Exhaust gas debit	Efficiency	Water contents	Water connections	Electric supply	Weight
	kW	°C	bar	m³/h	%	lit	mm	V/Hz	kg
ESTO 200	214	95	3	432	90	1.400	DN 65	400/50	2.840
ESTO 300	310	95	3	584	90	1.640	DN 65	400/50	3.550
ESTO 400	416	95	3	785	90	2.050	DN 65	400/50	3.880
ESTO 500	520	95	3	892	90	2.854	DN 80	400/50	4.200
ESTO 600	610	95	3	1.152	90	3.080	DN 100	400/50	4.560
ESTO 750	750	95	3	1.420	90	3.420	DN 125	400/50	4.980
ESTO 900	916	95	3	1.740	90	3.740	DN 125	400/50	5.800
ESTO 1000	1.044	95	3	1.982	90	4.080	DN 125	400/50	6.500
ESTO 1250	1.220	95	3	2.340	90	4.480	DN 150	400/50	7.450
ESTO 1500	1.512	95	3	2.856	90	4.840	DN 150	400/50	7.880

Type	A	B	B1	B2	C	D	F	T3
mm								
ESTO 200	1300	2100	1775	325	2340	400	1036	Ø220
ESTO 300	1300	2600	2275	325	2340	400	1036	Ø230
ESTO 400	1641	2757	1840	917	2900	500	1388	Ø260
ESTO 500	1641	3257	2340	917	3000	500	1388	Ø280
ESTO 600	1800	3250	2330	920	3000	500	1388	Ø280
ESTO 750	1800	3385	2450	935	3200	500	1650	Ø450
ESTO 900	1960	3385	2450	935	3200	500	1650	Ø450
ESTO 1000	1960	3720	2760	935	3200	500	1650	Ø450
ESTO 1250	2106	3660	2725	935	3500	500	1855	Ø560
ESTO 1500	2106	3960	3025	935	3500	500	1855	Ø560

AR

hot air generator for liquid/gaseoud fuel 47-220 kW



FUELS



gas/liquid

Thermostahl AR hot air generators can be used for heating any closed space like greenhouses, workhouses, industrial buildings, storehouses etc.

The hot air generator has a special 3-pass design, with robust, welded construction of the air chamber. This unique construction offers a constant debit of hot air with maximum efficiency, assuring fast heating and energy savings. All surfaces which come in contact with fire are made for special refractory steel.

The hot air generators are equipped with a control panel with aerostat for regulation of the air outlet temperature, and centrifugal ventilator.

The generators can work on oil, natural gas and LPG, by installing an appropriate burner.

The generator can be constructed with any type of plenum so that it fits all installing applications.

AISI 304

Refractory steel heat exchanger



High static pressure



Low noise operation



Safety thermostat

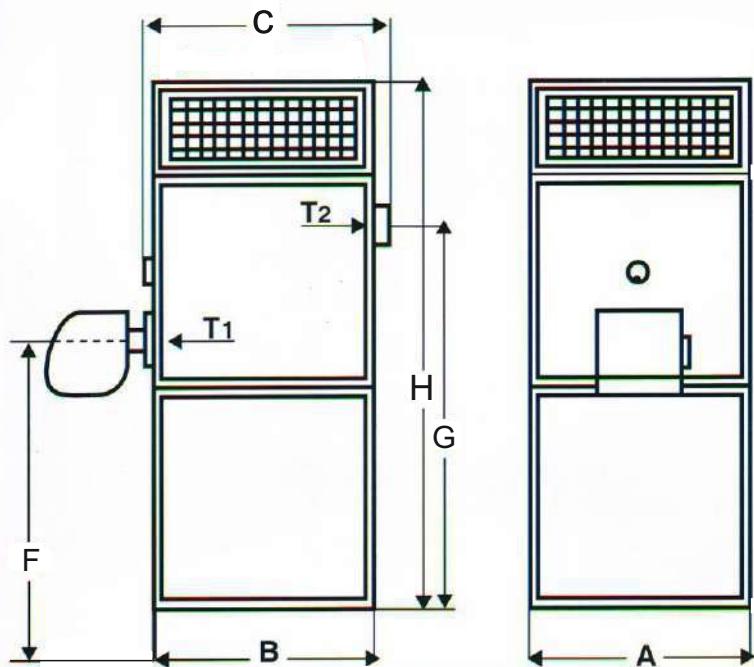
MAIN FEATURES

- Stainless steel combustion chamber with aerodynamic shape
- High temperature resistant heat exchanger
- Cabinet is made by galvanized sheet
- Possibility of interface with thermostat or humidistat or timer
- Overheating thermostat
- Fan thermostat
- Electric board
- Power cord
- Very small space is needed to be installed
- The air is always clean, since the exhaust gases are extracted through the chimney

TECHNICAL DATA

Type	Nominal power		Temp. max.	Hot air supply	Static pressure	ΔT	Noise level	Power consumption	Electric supply	Weight
	kcal/h	kW	°C	m³/h	Pa	K	dB	kW	V/Hz	kg
AR 40	40.000	47	120	2.700	200	42	81,5	0,43	230/50	410
AR 80	80.000	93	120	4.500	200	42	85,0	0,65	230/50	480
AR 120	120.000	140	120	8.000	200	42	88,5	1,30	400/50	560
AR 150	150.000	174	120	11.900	300	42	90,0	2,20	400/50	650
AR 190	190.000	220	120	11.900	300	42	90,0	2,20	400/50	860

DIMENSIONS



Type	A	B	C	F	G	H	T2	T1
mm								
AR 40	650	800	900	850	1350	1850	Ø125	114
AR 80	700	1150	1300	1050	1650	2250	Ø150	133
AR 120	850	1350	1550	1200	1800	2450	Ø200	159
AR 150	850	1600	1800	1200	1800	2450	Ø200	159
AR 190	1100	1450	1650	1450	2050	2800	Ø200	168

SLV / SLV-BIO

hot air generator for solid fuel



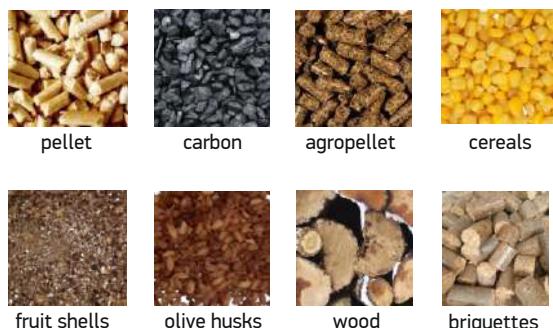
Hot air generator for solid fuel SLV has a robust construction with three exhaust gas passes, refractory fire chamber and tube heat exchanger.

The SLV-BIO version is equipped with BIOFIRE furnace for automatic function on biomass-pellet.

The big volume fire chamber allows loading of big dimension wood logs in order to ensure a long autonomy. The generator can function on any type of solid fuel: wood, briquettes, carbon. Its unique construction offers a steady debit of hot air with maximum efficiency, ensuring fast heating and energy savings.

The generator can be constructed with any type of plenum so that it fits all installing applications.

FUELS



Multifuel function



High static pressure



Low noise operation



3 years warranty

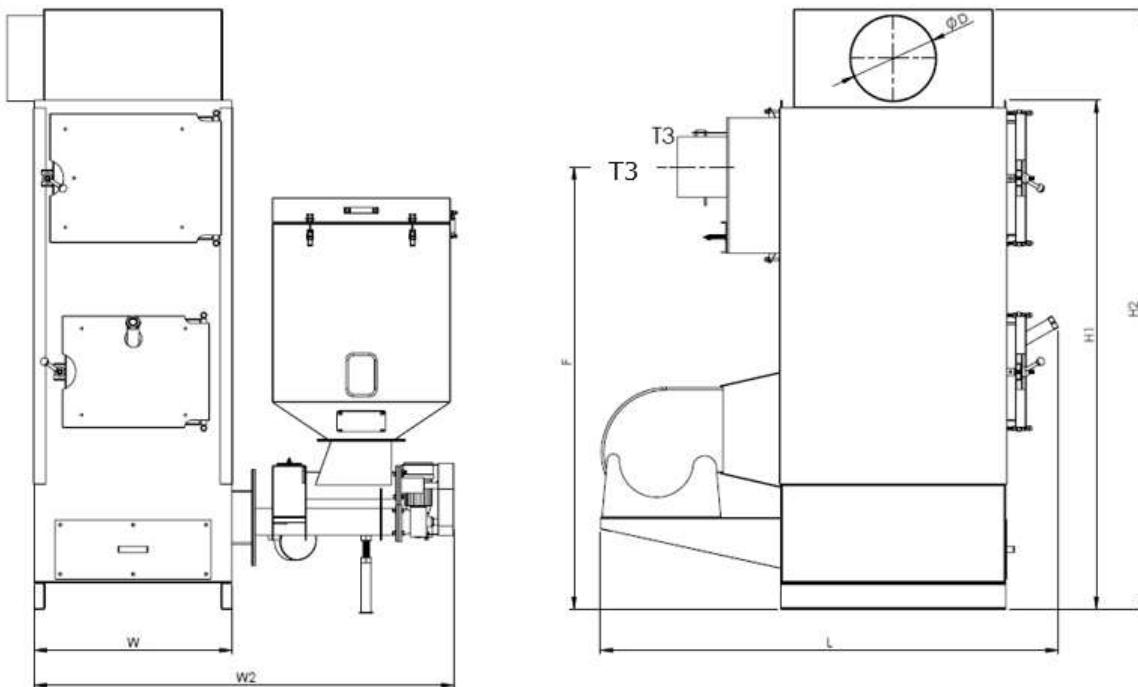
MAIN FEATURES

- 3-pass construction for high efficiency
- High temperature resistant heat exchanger
- Function on multiple fuels: wood, biomass, pellet
- Possibility of interface with thermostat or humidistat or timer
- Overheating thermostat
- Fan thermostat
- Complete control panel
- The air is always clean, since the exhaust gases are extracted through the chimney

TECHNICAL DATA

Type	Power	Temp. max.	Hot air supply	Static pressure	ΔT	Noise level	Power consumption	Electric supply	Weight SLV/SLV-BIO
	kW	°C	m³/h	Pa	K	dB	kW	V/Hz	kg
SLV 40	47	120	3.156	120	42	64	0,43	230/50	220/450
SLV 50	58	120	3.894	120	42	64	0,43	230/50	280/500
SLV 60	70	120	4.000	120	42	64	0,43	230/50	340/550
SLV 70	81	120	5.493	120	42	66	0,67	230/50	390/600
SLV 80	93	120	6.648	200	42	70	0,67	230/50	450/650
SLV 100	116	120	7.789	200	42	75	0,85	230/50	510/800
SLV 120	140	120	9.400	200	42	80	2,50	400/50	660/980
SLV 140	163	120	10.945	200	42	80	2,50	400/50	730/1100
SLV 160	186	120	12.000	200	42	90	5,80	400/50	810/1230
SLV 180	209	120	14.000	200	42	90	5,80	400/50	890/1380
SLV 200	233	120	17.000	200	42	95	5,80	400/50	970/1550
SLV 230	267	120	18.000	200	42	120	6,25	400/50	1150/1730
SLV 250	291	120	20.000	200	42	120	6,25	400/50	1320/1950
SLV 300	349	120	22.000	300	42	140	6,25	400/50	1460/2250
SLV 350	407	120	24.000	300	42	140	7,50	400/50	1650/2500
SLV 400	465	120	26.000	300	42	160	7,50	400/50	1930/2750

DIMENSIONS



Type	Feeding door	Fire chamber length	L	W	H1	H	T3	W1	F
	mm	mm				mm			
SLV 40	510x390	390	1350	810	1965	2335	245	1680	1790
SLV 50	510x390	490	1450	810	1965	2335	245	1680	1790
SLV 60	510x390	590	1550	810	1965	2335	245	1680	1790
SLV 70	510x390	690	1650	810	1965	2335	245	1680	1790
SLV 80	510x390	790	1750	810	1965	2335	245	1680	1790
SLV 100	510x390	890	1850	810	1965	2335	245	1680	1790
SLV 120	535x435	700	1770	1010	2130	2700	345	1900	1750
SLV 140	535x435	900	1970	1010	2130	2700	345	1900	1750
SLV 160	535x435	1100	2170	1010	2130	2700	345	1900	1750
SLV 180	535x435	1300	2370	1010	2130	2700	345	1900	1750
SLV 200	535x435	1500	2570	1010	2130	2700	345	1900	1750
SLV 230		1700	2770	1010	2130	2700	345	1900	1750
SLV 250									
SLV 300									
SLV 350									
SLV 400									



For 50 years we innovate...

The history of THERMOSTAHL begins in 1965, when the company is established in Thessaloniki-Greece, under the name Biotherm. In 1985 The company is renamed to THERMOSTAHL. By this time, THERMOSAHL is already recognized as a leading boiler manufacturer in Greece.

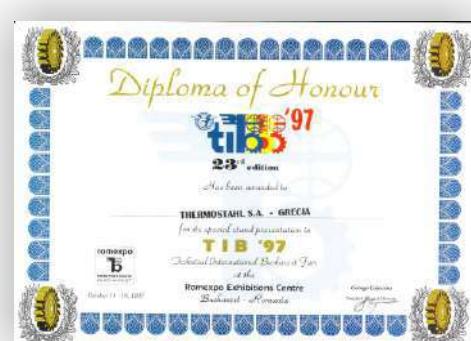
In 1997 Thermostahl Romania SRL is established with private facilities in Bucharest and by 2001 the building in Romania is completed. At the same time Thermostahl Poland Z.o.o. is established in Warsaw.

By 2005 the company already works as a complete company group with active presence in Central and

South-Eastern European countries, producing more than 10.000 units per year.

The company, always loyal to its principles, raises its profile by investing in specialized products: pellet boilers, high efficient 3-pass boilers, solid fuel and biomass fired boilers.

Today THERMOSAHL offers more than **100 different types of boilers, exports in more than 20 countries and has an international distribution network of 1.000 sales points.**



**200 Authorized resellers
1.000 Sales points
100.000 Satisfied clients**



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