Heating and **Energy** Saving Systems

pellet • biomass • wood
solar energy • gas • oil

GENERAL CATALOGUE
2022-2023

thermostahl

ecoSTER x40 / x80

WIRELESS REMOTE CONTROL STRAIGHT FROM YOUR LIVING ROOM

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

It is wireless and works with the a radio transmission module.

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

ANDROID APP ON Google play

Available on the App Store

- Service accounts
- Online management
- Service cost reduction
- Easy installation
- Complex databases
- Full control from anywhere
- Clear alarm history

Contents

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

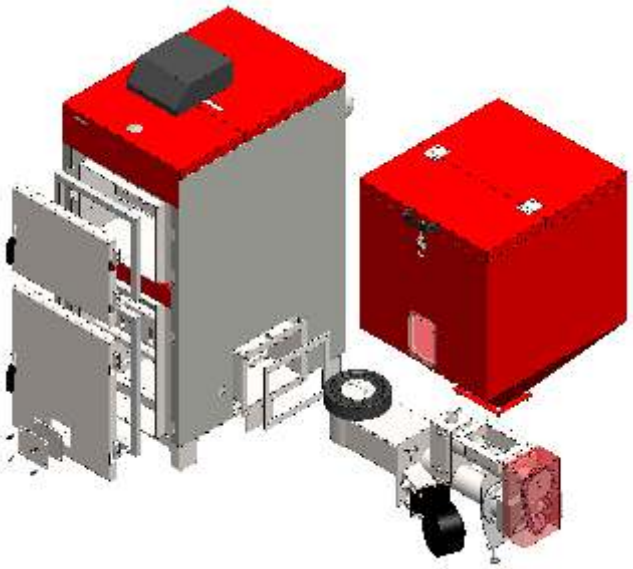
All our products are designed with main orientation towards efficiency, enviromental friendly function, high quality materiales and user-friendly functionality.

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

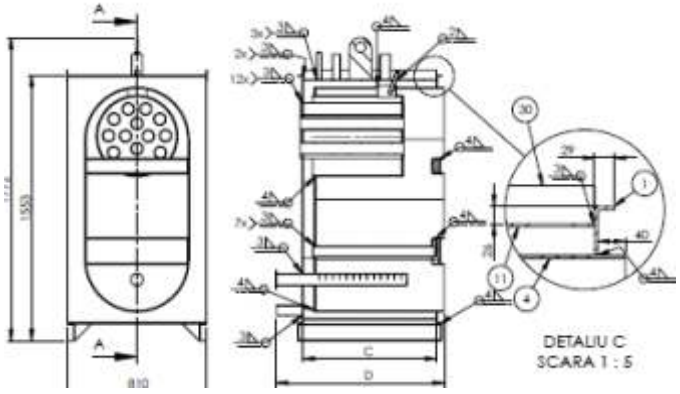
We apply our long experience know-how, in conformity with the newest technology trends and European Standards for quality, safety, efficiency and emmissions.

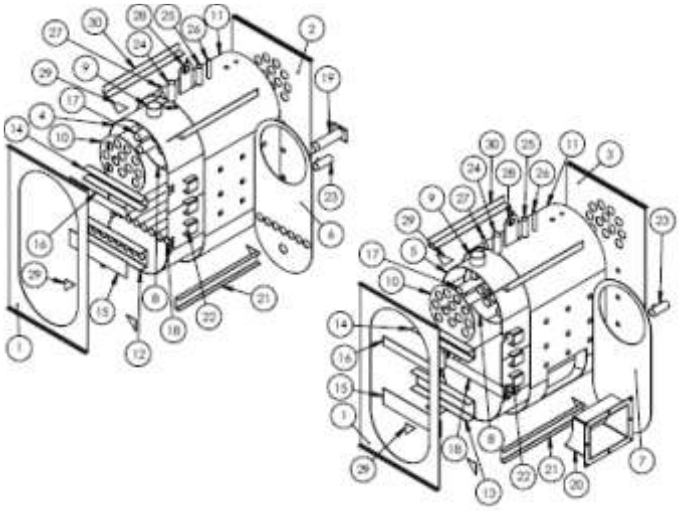
All our products are designed with 3D CAD design software SOLIDWORKS. All components are thourghly examined and tested before final selection.

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



SOLIDWORKS





Certification

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

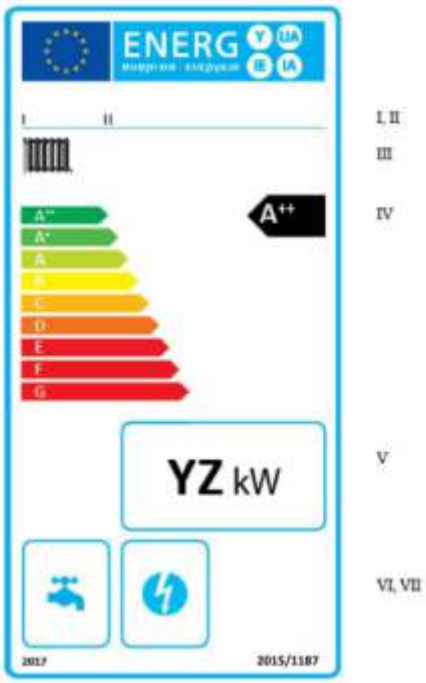
The company is certified by the accredited certification body TÜV Thüringen, Germany.

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.

Ecodesign

ECODESIGN is a Directive of the European Commission, 2009/125/EC, on the ecological protection of energy-related products. The aim is to reduce the environmental impact throughout the life cycle, with better product design.

One of the founding principles of the company THERMOSTAHL is the innovator's spirit. That is why we want to proudly announce that our products have obtained **ECODESIGN certification.**



What does ECODESIGN mean for solid fuel boilers?

The ECODESIGN Directive complements standard for solid fuel boilers (EN 303-5:2012).

More exactly all ECODESIGN certified boilers meet the EN 303-5:2012 standard EN 303-5:2012 standard on **emissions, efficiency,** as well as the electricity **consumption** of boilers. In addition, it provides **safety** criteria in operation and compatibility with auxiliary automation **devices** for temperature control and **energy saving.**

For the first time, the term **seasonal efficiency** is used, taking into account **operation at minimum, nominal and stationary power.** The same rule applies to **emissions** (CO, dust, volatile organic compounds) which is extended to the measurement of nitrogen oxide **(NOx) emissions.**

The THERMOSTAHL product range meets the requirements of European standard EN 303-5:2012, with classification in CLASS 5, as well as the requirements of ECODESIGN with an A+ energy class.

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.

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 sucessfuly 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

Ther 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 enviromental-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 CO_2.**

Fuel type	Calorific value *kWh/kg*	Allowed 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

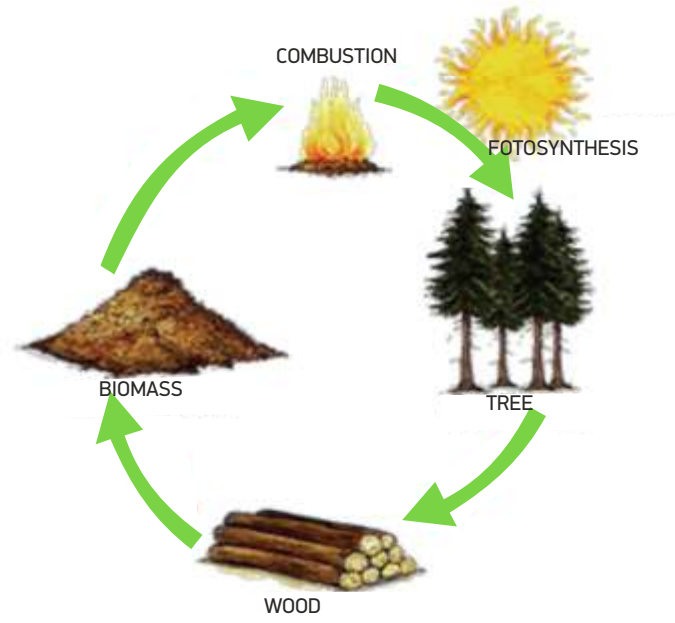
Why choose biomass?

> 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 enviromental friendly
> It is economical

What means CO_2 neutral?

Biomass is the only fuel whose carbon dioxide (CO_2) enviromental 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 material100% 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 eliberated 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/m³	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 920i

integrated management of the heating installation

Smart Menu

ecoMAX 920i is a universal device, controlling several heat sources and devices of the heating insallation, 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

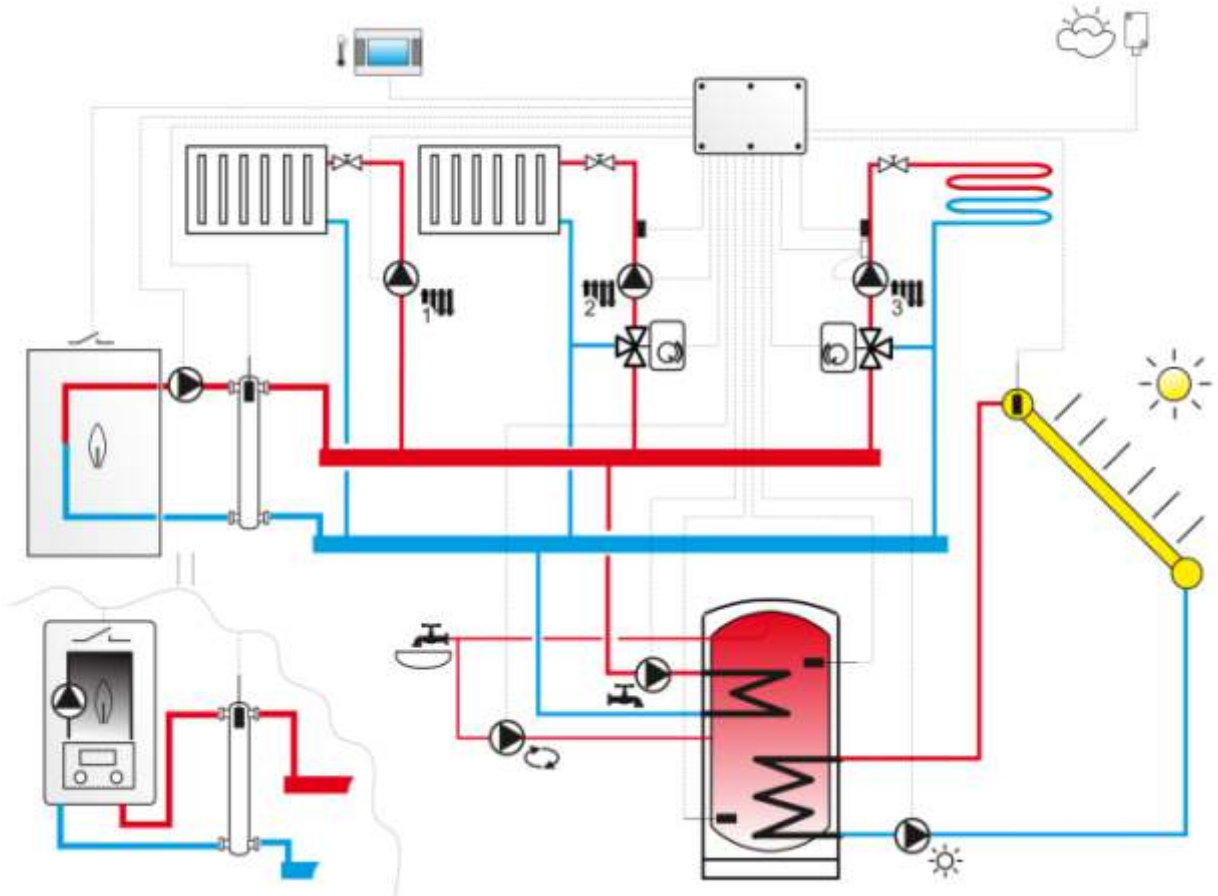
MAIN FEATURES

- Management of the main heat source (boiler, heat pump, solar panels, cascade of boilers), plus a reserve heat source
- Weather control with heating curves
- Adaptive control of mixers
- Built-in touch screen of 5"
- Energy savings thanks to inegrated 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
- 2-way radio communication with up to 3 panels ecoSTER x40 or ecoSTER x80

WIRELESS CONTROL FOR THE COMPLETE INSTALLATION

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

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 ingition system** (version ECOBIO-RES) and removable **overheating serpentine**.

FUELS


pellet


carbon


agropellets


cereals


fruit shells


olive husks


wood


briquettes


Full power modulation


Fumes sensor modulation
Flame detection


Multifuel function

3 years product warranty

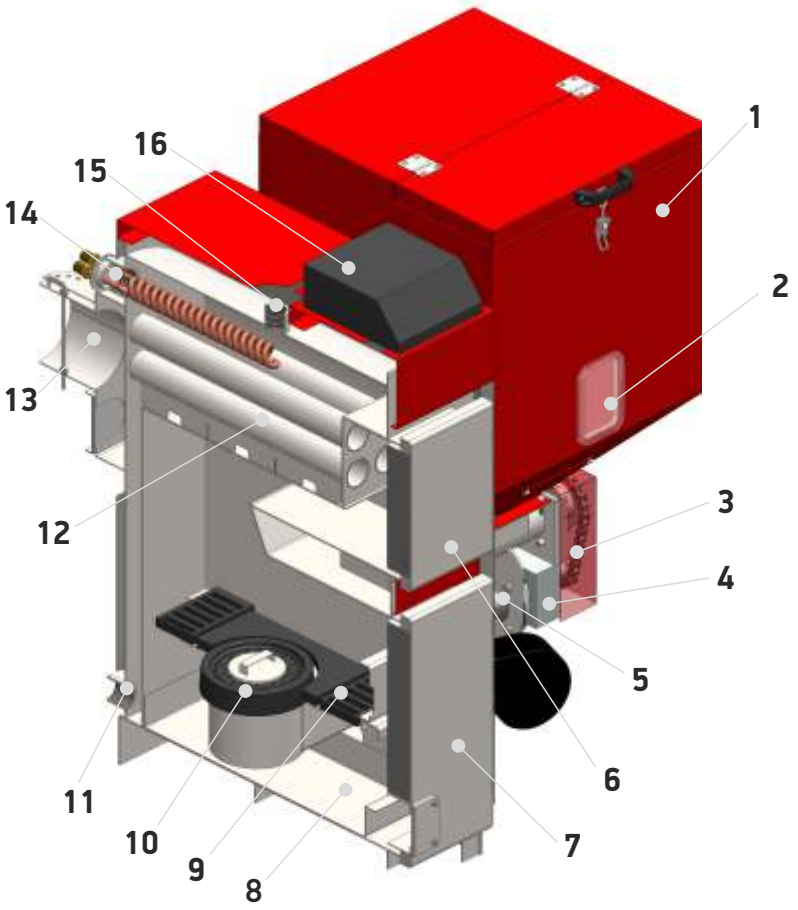

Safety devices and alarm signals


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



1. Big capacity silo
2. Inspection window for fuel level
3. Furnace transmission system
4. Furnace motoreducer
5. Feeding system BI-AX
6. Heat exchanger door
7. Manual loading and ash removal door
8. Ash box
9. Wood grate
10. Combustion plate
11. Boiler return
12. Tube heat exchanger
13. Chimney
14. Safety heat exchanger
15. Boiler outlet
16. Digital control panel

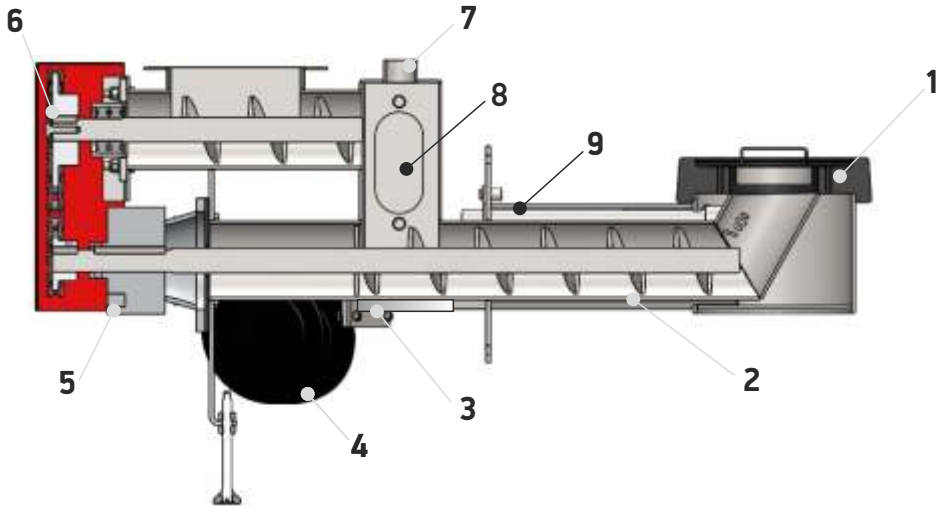
FURNACE SYSTEM

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.



1. Cast iron furnace plate
2. Feeding auger
3. Feeder temperature sensor
4. Fan
5. Motoreducer
6. Chain transmission system
7. Auxilliary against fume return
8. Access door
9. Crystalic ignition element

MANUAL IGNITION

CONTROLLER ECOMAX 800R

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

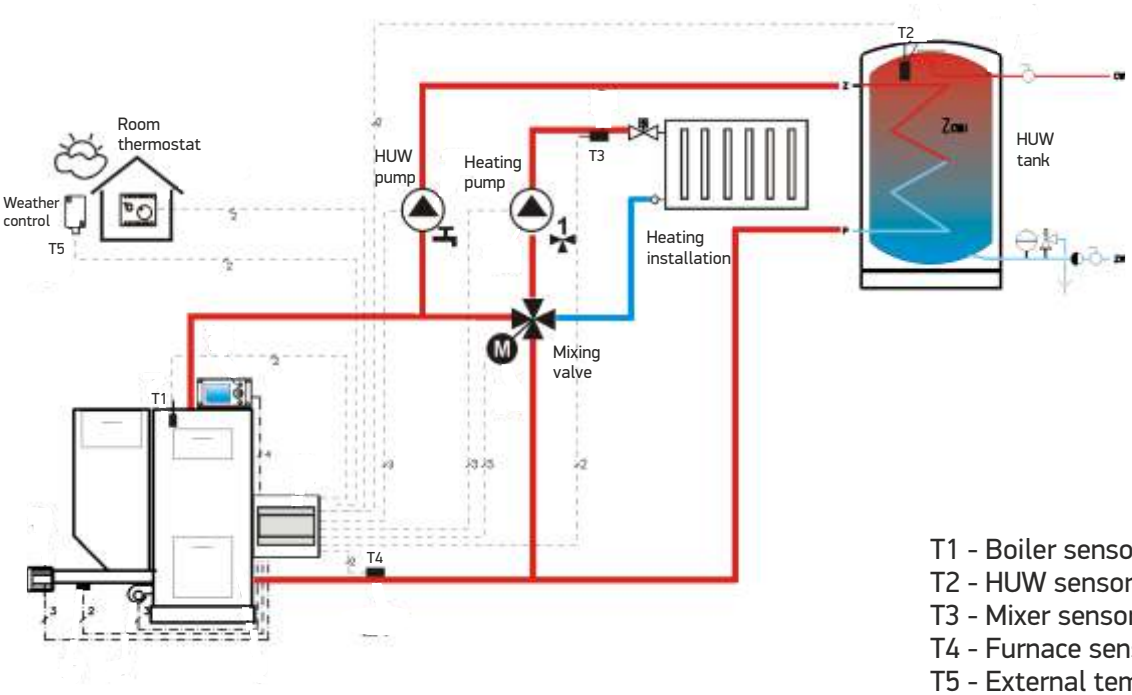
The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

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 comand 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
- Feeder
- Heating pump
- HUW pump
- Weather control
- Buffer control
- Fuel level recognition
- Summer/winter mode
- Room thermostat
- Alarm signals
- Overheating protection

INSTALLATION SCHEME



T1 - Boiler sensor
T2 - HUW sensor
T3 - Mixer sensor
T4 - Furnace sensor
T5 - External temperature sensor

AUTOMATIC IGNITION

CONTROLLER ECOMAX 920P

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

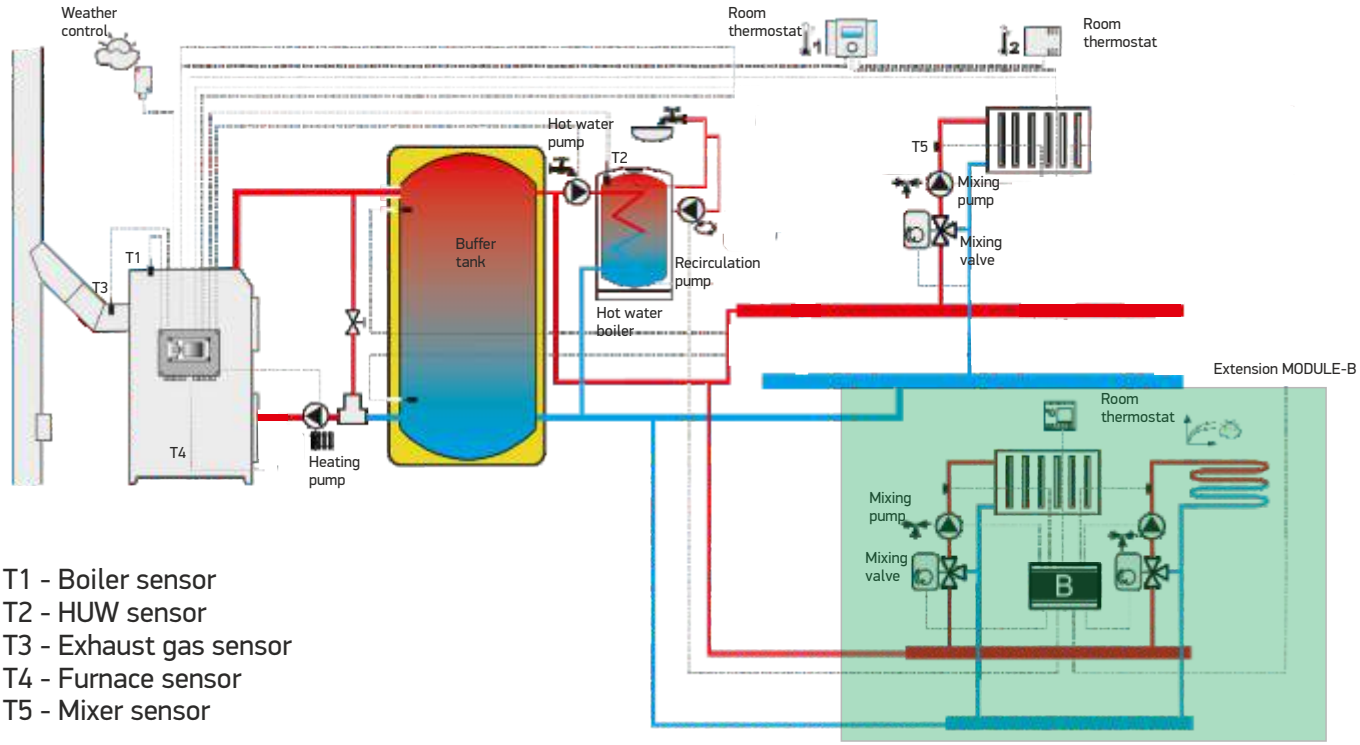
The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

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

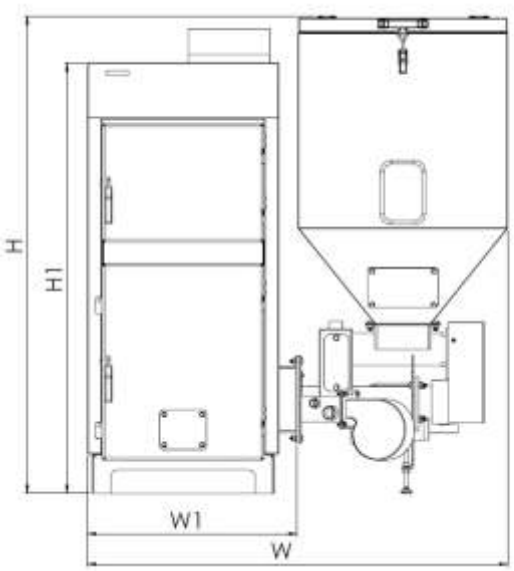
INSTALLATION SCHEME

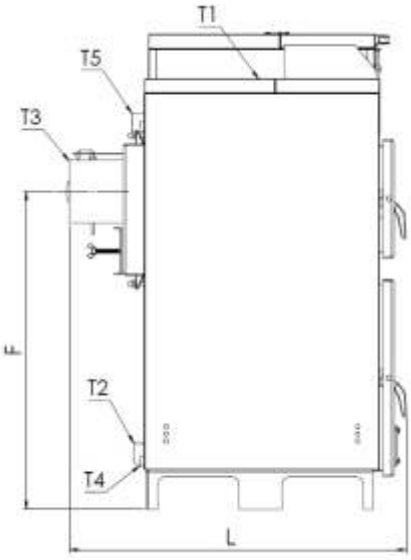


T1 - Boiler sensor
T2 - HUW sensor
T3 - Exhaust gas sensor
T4 - Furnace sensor
T5 - Mixer sensor

Extension MODULE-B is not standard boiler equipment.

TECHNICAL DATA



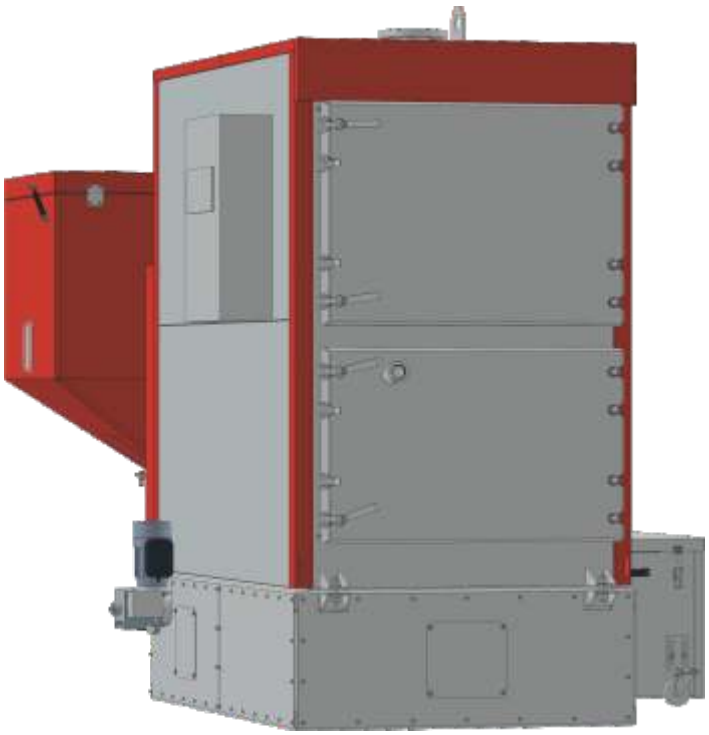


T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Drainage
T5 - Safety heat exchanger

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		ºC	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 ½”	1 ½”	1 ½”	1 ½”	1 ½”	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	mm	¾”	¾”	¾”	¾”	¾”	¾”	¾”
	T5	mm	2"	2"	2"	2"	2"	2 ½”	2 ½”

PROFI PELLET

mutlifuel biomass boiler 150-400 kW



PROFI PELLET is a fully automatic pellet-biomass-wood boiler for industrial applications. Thanks to its special design, it can function on multiple fuels without any change on the body.

The boiler construction is 3-pass for high efficiency up to 90%. The boiler is equipped with an upper door for cleaning of the heat exchanger, lower door for manual fuel loading, and a rear door for access to the back side of the heat exchanger.

The furnace is made of removable cast iron elements, with independent primary and secondary air control for optimal combustion. Ignition is automatic by means of a an electrical ignitor.

The boiler is equipped with exhaust fan (optional), which ensures optimum circulation of the exhaust gases and heat transfer. The boiler can be additionally equipped with automatic ash removal, and pneumatic cleaning of the tubes.

The operation of all the devices is controlled by a digital control panel, which offers numerous functional and safety features.

FUELS


pellet


carbon


agropellets


cereals


fruit shells


olive husks


wood

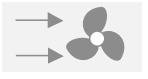

briquettes


Full power modulation


Exhaust gas sensor
Flame detection


Advanced digital controller

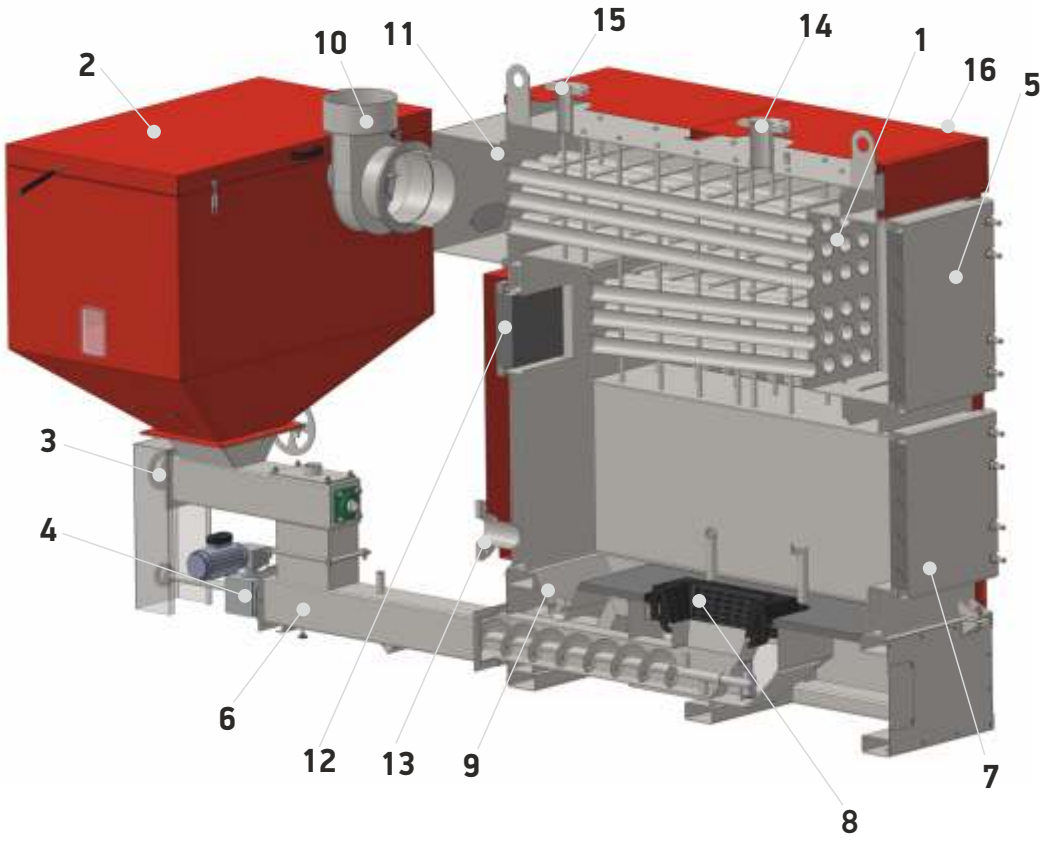

Ash extraction


Exhaust fan control

MAIN FEATURES

- Multifuel boiler: automatic function on pellet-biomass, manual function on wood
- Three-pass boiler construction with horizontal tubes exchanger for high efficiency
- High performance furnace for multiple types of fuel
- Three points back-burn security
- Exhaust fan with electronic regulation for optimal burner function and steady draught (optional)
- Possibility to manually function on wood
- 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
- Ceramic ignition element for fast ignition and long lifespan
- Automatic ash extraction (optional)
- Pneumatic cleaning of the tubes (optional)

BOILER CONSTRUCTION



1. Three-pass heat exchanger
2. Big capacity silo
3. Furnace transmission system
4. Furnace motoreducer
5. Door for heat exchanger cleaning
6. Feeding system BI-AX
7. Feeding door
8. Furnace with independent primary and secondary air control
9. Automatic ash extraction
10. Exhaust fan
11. Chimney
12. Rear access door
13. Boiler return
14. Boiler outlet
15. Boiler safety connection
16. Digital control panel

CONTROLLER SYSTEM 400

The boiler is equipped with an advanced digital controller for extended control over the boiler and the heating installation, with a 7" color touch screen interface.

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

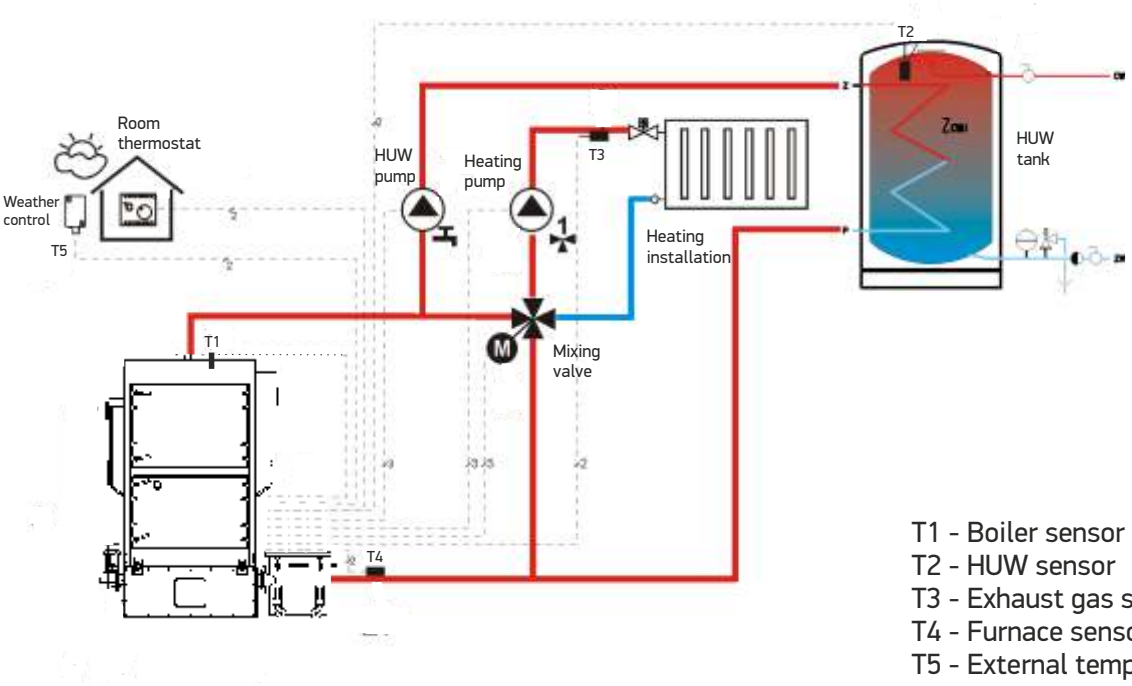
The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

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 comand 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
- Feeder
- Exhaust fan
- Heating pump
- Hot water pump
- Weather control
- Buffer control
- Ash extractor
- Fuel level recognition
- Summer/Winter mode
- Igniter
- Fumes sensor
- Room thermostat
- Alarm signals
- Overheating protection

INSTALLATION SCHEME

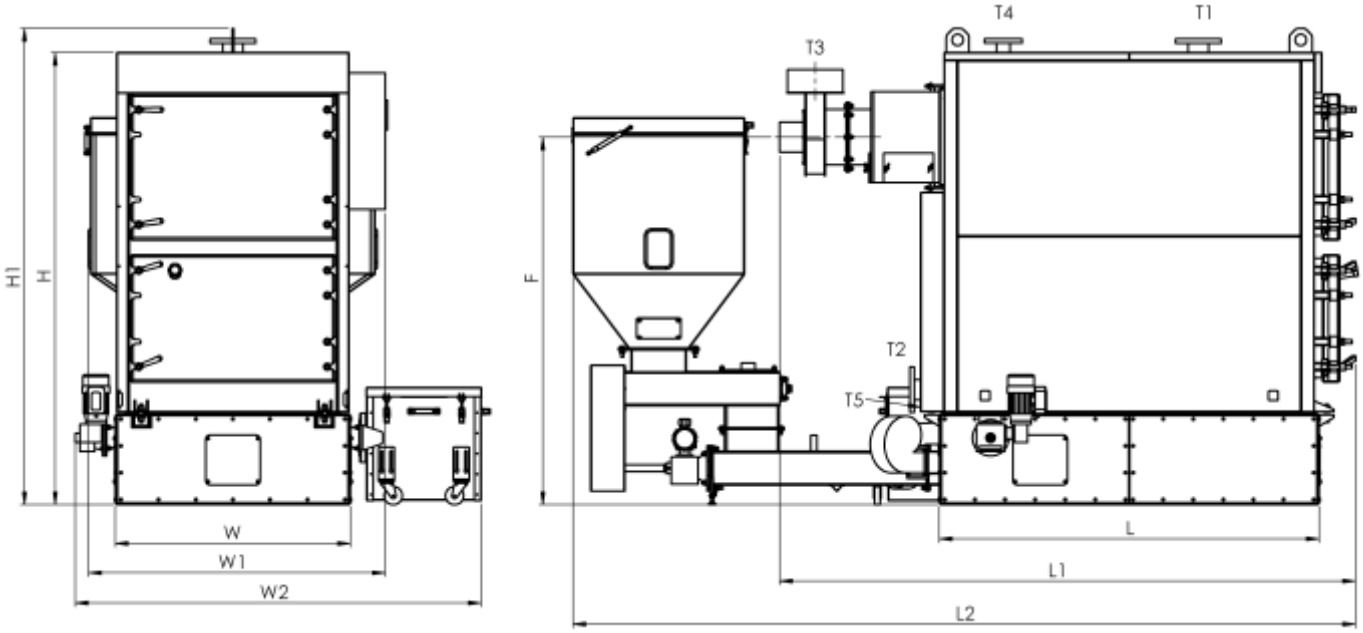


T1 - Boiler sensor
T2 - HUW sensor
T3 - Exhaust gas sensor
T4 - Furnace sensor
T5 - External temperature sensor

TECHNICAL DATA

Type			PROFI PELLET 150	PROFI PELLET 200	PROFI PELLET 250	PROFI PELLET 320	PROFI PELLET 400
Nominal power		kW	150	200	250	320	400
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	350	470	580	730	830
Weight		kg	1890	2030	2160	2460	2575
Silo volume		lit	1350	1350	1350	1350	1350
Electrical connection		V/Hz	400/50	400/50	400/50	400/50	400/50
Dimensions	H/H1	mm	1990/2100			2170/2280	
	W /W1/W2	mm	1035/1310/1790			1135/1575/1890	
	F	mm	1620	1620	1620	1765	1765
	L/L1/L2	mm	1270/2135/3095	1470/2335/3295	1670/2535/3445	1670/2595/3810	1820/2745/3885
	T1-T2	mm	DN 65	DN 80	DN 80	DN 80	DN 80
	T3	mm	Ø250	Ø250	Ø250	Ø300	Ø300
	T4	mm	DN 50	DN 50	DN 50	DN 50	DN 50
	T5	inch	1"	1"	1"	1"	1"

DIMENSIONS



T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Safety connection
T5 - Drainage

OPTIONAL ACCESSORIES

Automatic ash extraction

Ash channel with mechanical screw conveyor for automatic ash extraction from the furnace. The conveyor is controlled by an individual moto-reducer by means of time intervals. The ash is accummulated in a big capacity ash box.

Exhaust fan

The exhaust fan is mounted at the outlet of the boiler, and ensures optimum circulation of the exhaust gases and heat transfer. It is controlled by the boiler controller, and has electronic speed control according to the power level.

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.

Lambda sensor

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

Water pressure sensor

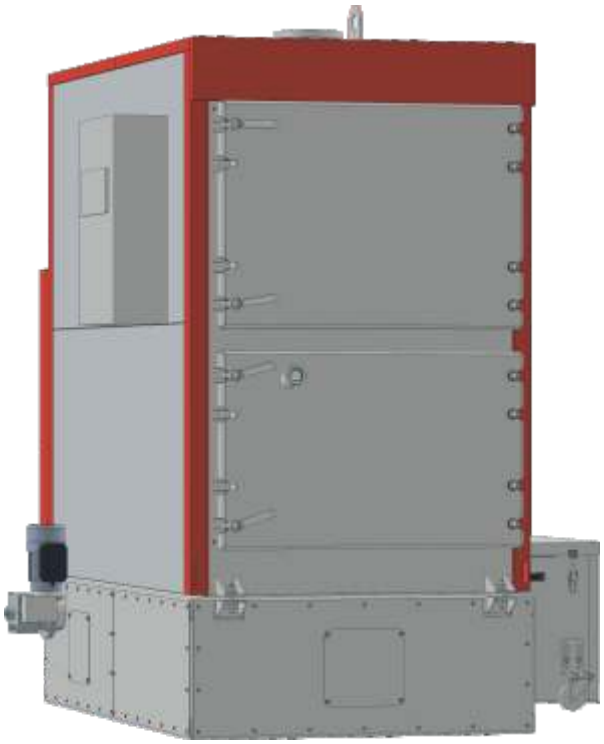
A water pressure sensor can be installed on the safety kit. It monitors the boiler pressure and signals an alarm if the pressure is outside the set limits.

Fuel level sensor

A fuel level sensor can be installed on the silo and control an external feeder to automatically maintain the fuel in the silo.

PROFI BIO

multifuel boiler with external feeder 150-400 kW



PROFI BIO is a fully automatic multifuel boiler with external feeder for industrial applications. The external feeder has a robust construction and heavy duty spiral of big dimensions, being able to carry fuel with diameter up to 100 mm like woodchips and wood residues.

The boiler construction is 3-pass for high efficiency up to 90%. The boiler is equipped with an upper door for cleaning of the heat exchanger, lower door for manual fuel loading, and a rear door for access to the back side of the heat exchanger.

The furnace is made of removable cast iron elements, with independent primary and secondary air control for optimal combustion. Ignition is automatic by means of a an electrical ignitor.

The boiler is equipped with exhaust fan (optional), which ensures optimum circulation of the exhaust gases and heat transfer. The boiler can be additionally equipped with automatic ash removal, and pneumatic cleaning of the tubes.

The operation of all the devices is controlled by a digital control panel, which offers numerous functional and safety features.

FUELS

pellet, agropellets, cereals, woodchips, sawdust

fruit shells, olive husks, wood, briquettes

Rotating feeding system

Independent external feeder

Advanced digital controller

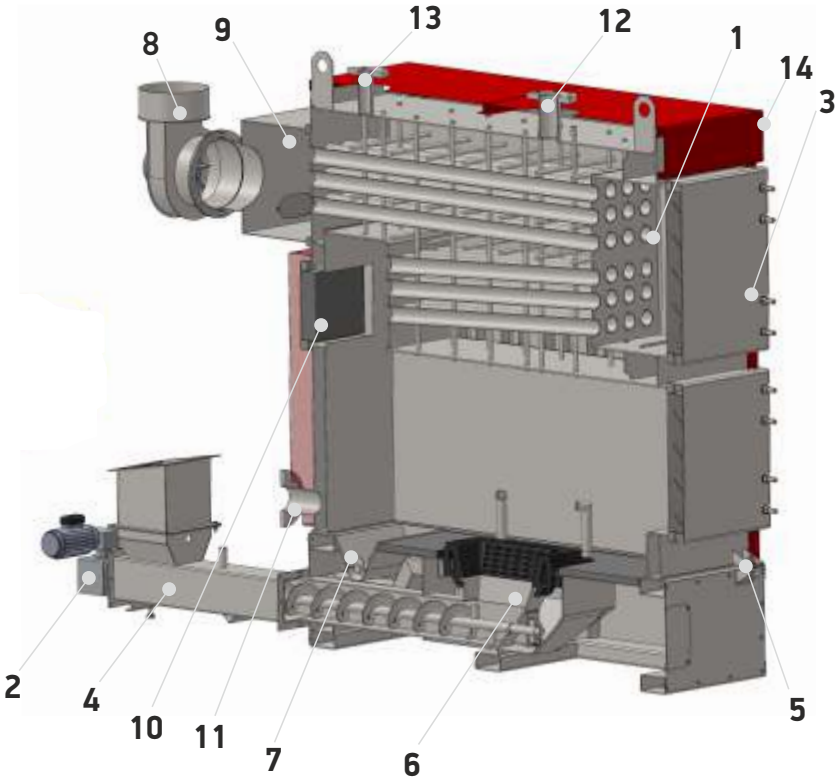
Ash extraction

Exhaust fan control

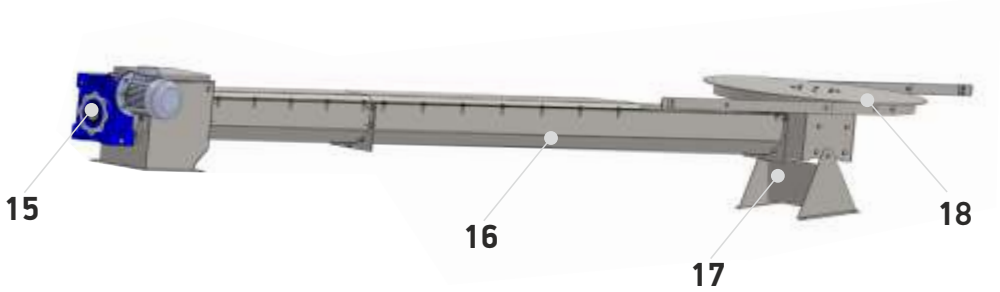
MAIN FEATURES

- External feeder which can be positioned parallel or perpendicular to the boiler, and can carry big size fuel
- Three-pass boiler construction with horizontal tubes exchanger for high efficiency
- High performance furnace for multiple types of fuel
- Three points back-burn security
- Exhaust fan with electronic regulation for optimal burner function and steady draught (optional)
- Possibility to manually function on wood
- 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
- Ceramic ignition element for fast ignition and long lifespan
- Automatic ash extraction (optional)
- Pneumatic cleaning of the tubes (optional)

BOILER CONSTRUCTION



1. Three-pass heat exchanger
2. Furnace motoreducer
3. Door for heat exchanger cleaning
4. Feeding system
5. Feeding door
6. Furnace with independent primary and secondary air control
7. Automatic ash extraction
8. Exhaust fan
9. Chimney
10. Rear access door
11. Boiler return
12. Boiler outlet
13. Boiler safety connection
14. Digital control panel
15. External feeder motoreducer
16. Special shape feeder with heavy duty spiral
17. Angle adjustment support
18. Rotating blades with dedicated reducer

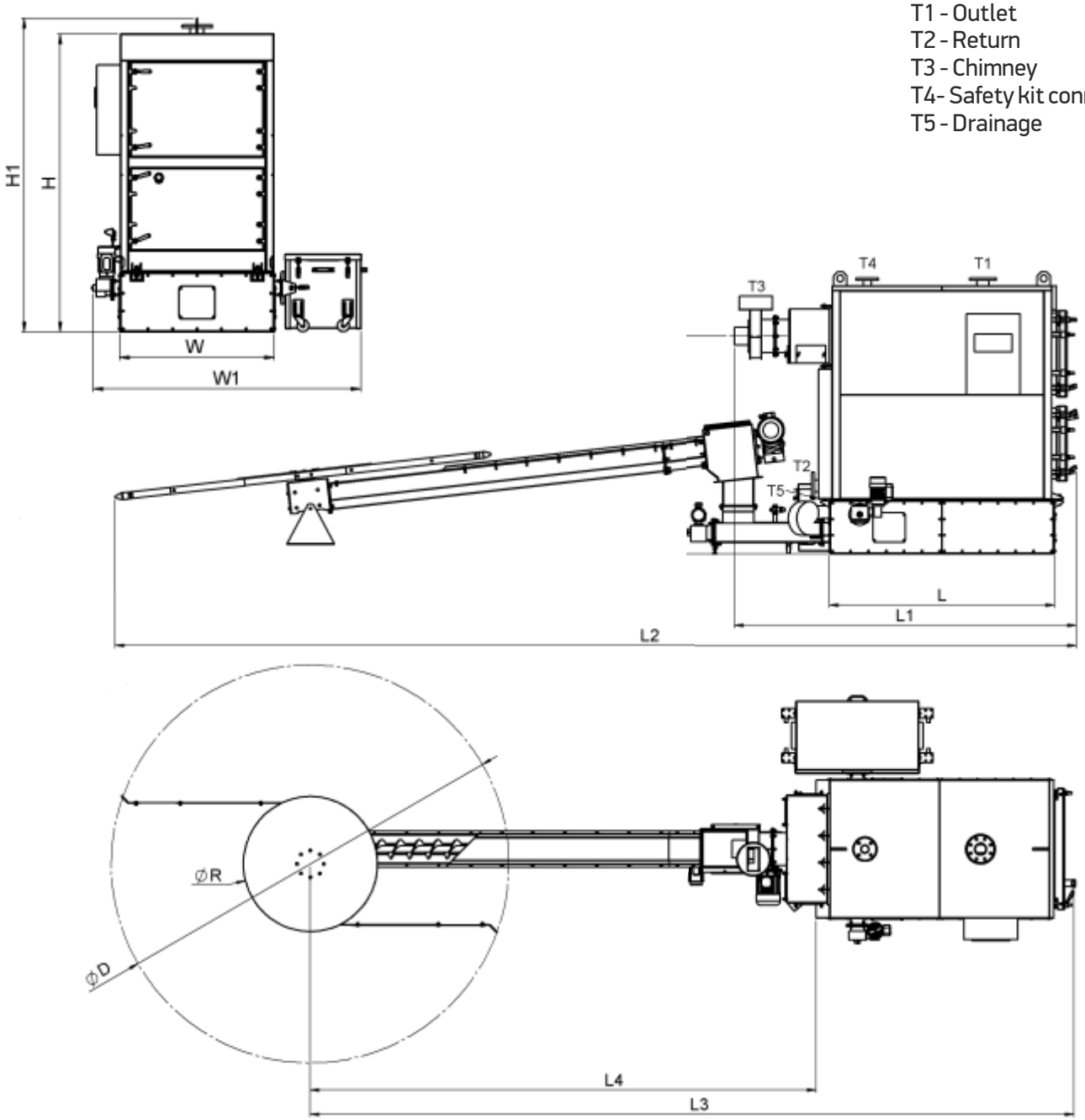


TECHNICAL DATA

Type		PROFI BIO 150	PROFI BIO 200	PROFI BIO 250	PROFI BIO 320	PROFI BIO 400
Nominal power	kW	150	200	250	320	400
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	350	470	580	730	830
Weight	kg	2140	2290	2420	2685	2800
Electrical connection	V/Hz	400/50	400/50	400/50	400/50	400/50

DIMENSIONS

T1 - Outlet
T2 - Return
T3 - Chimney
T4- Safety kit connection
T5 - Drainage



Type		PROFI BIO 150	PROFI BIO 200	PROFI BIO 250	PROFI BIO 320	PROFI BIO 400
H / H1	mm	1990/2100			2170/2280	
W / W1	mm	1035/1790			1135/1890	
F	mm	1620	1620	1620	1765	1765
L / L1 / L2	mm	1270/2135/6990	1470/2335/7190	1670/2535/7340	1670/2595/7420	1820/2745/7500
L3 / L4	mm	5590/4080	5790/4080	5940/4080	6020/4100	6100/4100
D / R	mm	3000/1000				
T1-T2	mm	DN 65	DN 80	DN 80	DN 80	DN 80
T3	mm	Ø250	Ø250	Ø250	Ø300	Ø300
T4	mm	DN 50	DN 50	DN 50	DN 50	DN 50
T5	inch	1"	1"	1"	1"	1"

ECOBIO-RES

automatic ignition system for biomass boilers

Biomass boiler ECOBIO 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 920P 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 800R	ECOBIO-RES ECOMAX 920P	MCL-BIO ECOMAX 800R	MCL-BIO-RES ECOMAX 800P
Feeding motor	✓	✓	✓	✓
Fan	✓	✓	✓	✓
By-pass pump	-	✓	-	✓
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 x40 / x80	✓	✓	✓	✓
ECONET	✓	✓	✓	✓

OPTIONAL ACCESSORIES

Automatic ignition

As an optional, ECOBIO 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 x40

This is a wireless device connected with radio module to the boiler. The ECOSTER x40 is equipped with room thermostat, with a function of setting a temperature schedule.

It shows alarms and function parameters of the boiler through 2-way communication.

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 x80

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

The connection is wireless through radio module.

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.

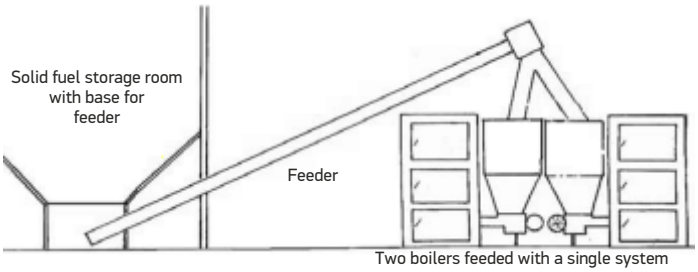
- Silo made from stainless steel
- Specially designed for wood pellet, cereals, grain, fruit stones
- Volume from 5 to 50 m^3
- Fully mechanical filling up and emptying through the feeder
- Smooth internal surface finishing for excellent flow of fuel
- Strong and reliable steel lengs with high stability
- 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 0º (horizontal) up to 90º (vertical)
- Can be delivered with two-way manual or automatic divider

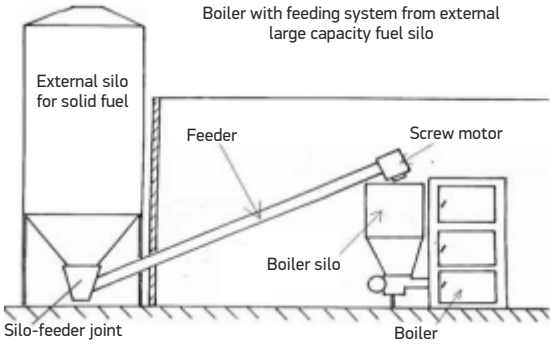
The feeding process can be automated with level sensors. The level sensors are positioned on the boiler silo and automatically maintain a steady fuel level, controlling the feeding auger. Complete electrical box is designed according to the application.

Technical boilers room with feeder for two boilers



Two boilers feeded with a single system

Boiler with feeding system from external large capacity fuel silo



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 40-450 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 feeding screw.

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 errod 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 ait. 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, MPB 250 and MPB 450 are standard equipped with automatic cleaning system.

BURNER CONTROLLER

Automatic power level

Central heating pump

Hot water/buffer pump

Room thermostat

Alarm signals

abc 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.

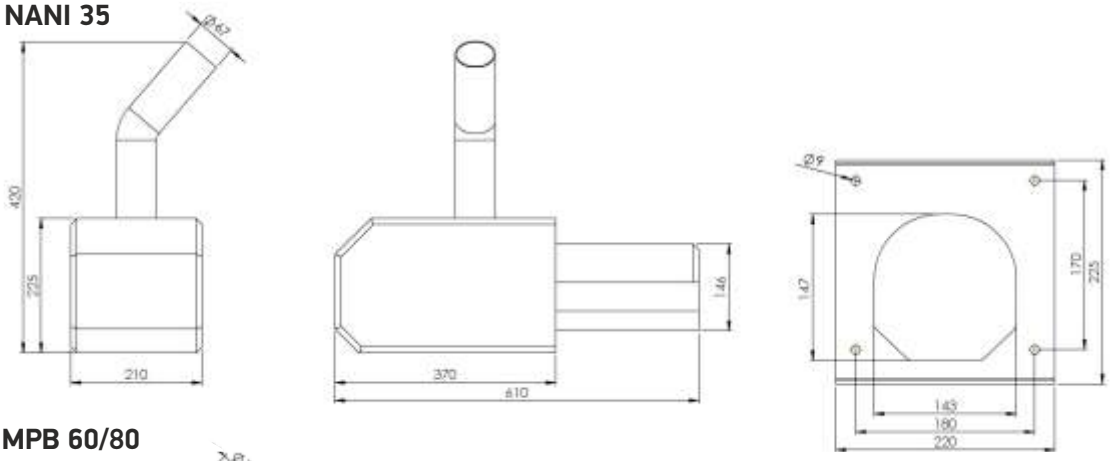
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable 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

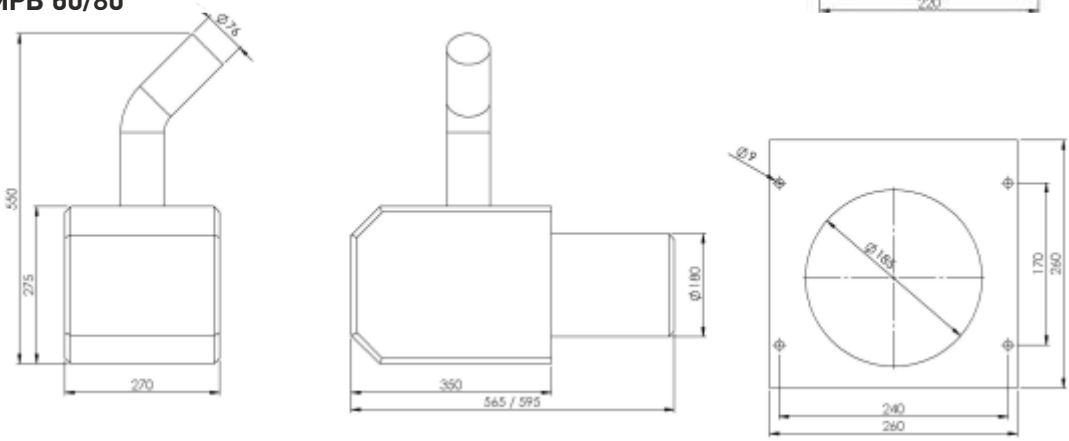
Type		NANI 35	MPB 60	MPB 80	MPB 150 Pro	MPB 250 Pro	MPB 450 Pro
Power	kW	10-40	20-60	40-80	70-150	100-250	200-450
Fuel consumption	kg/h	2-8	5-10	8-16	14-30	20-50	40-80
Min fire chamber required LxWxH	mm	350x300x350	450x350x400	650x400x500	900x600x600	1200x700x700	1500x800x800
Electric supply	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50
Energy consumption	W	30-40	40-50	40-70	60-70	70-80	180-200
Fuel		Wood pellet (diameter 6-8mm, ash <1%, humidity <10%)					
Weight	kg	14	20	23	45	53	120
Standard feeder length	m	1,5	1,5	1,5	2	2	2

DIMENSIONS

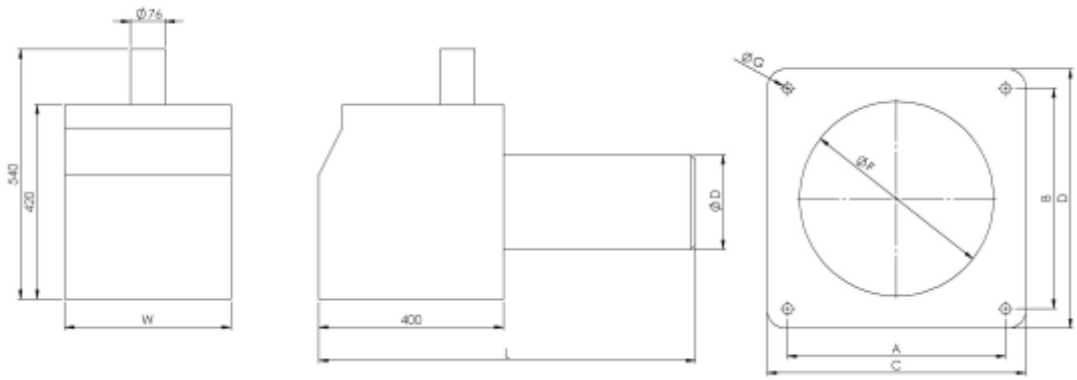
NANI 35



MPB 60/80



MPB 150/250

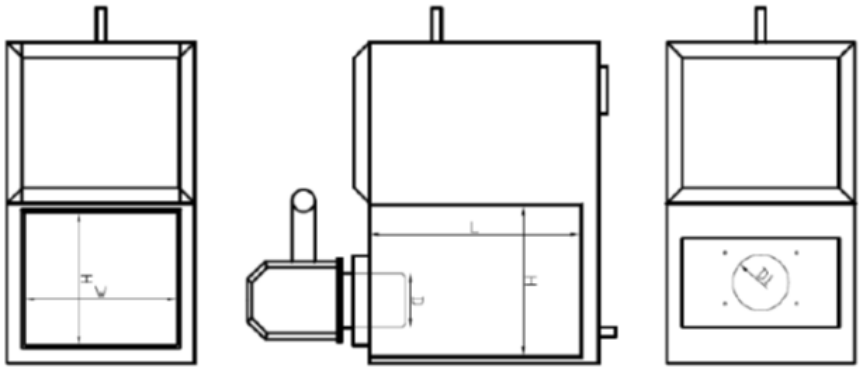


MOUNTING KIT

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	D	D1
	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	187
MPB 80	65	650	400	500	180	187
MPB 80	80	700	500	500	180	187
MPB 150 Pro	100	900	600	600	204	210
MPB 150 Pro	120	1.000	600	600	204	214
MPB 150 Pro	150	1.100	600	700	204	214
MPB 250 Pro	200	1.200	700	700	254	265
MPB 250 Pro	250	1.300	800	800	254	265
MPB 450 Pro	320	1.500	800	800	400	418
MPB 450 Pro	450	1.650	850	850	400	418

PLC MINI

automatic pellet unit 25-50 kW

PLC 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

3 years warranty

Safety features and automatic error diagnosis

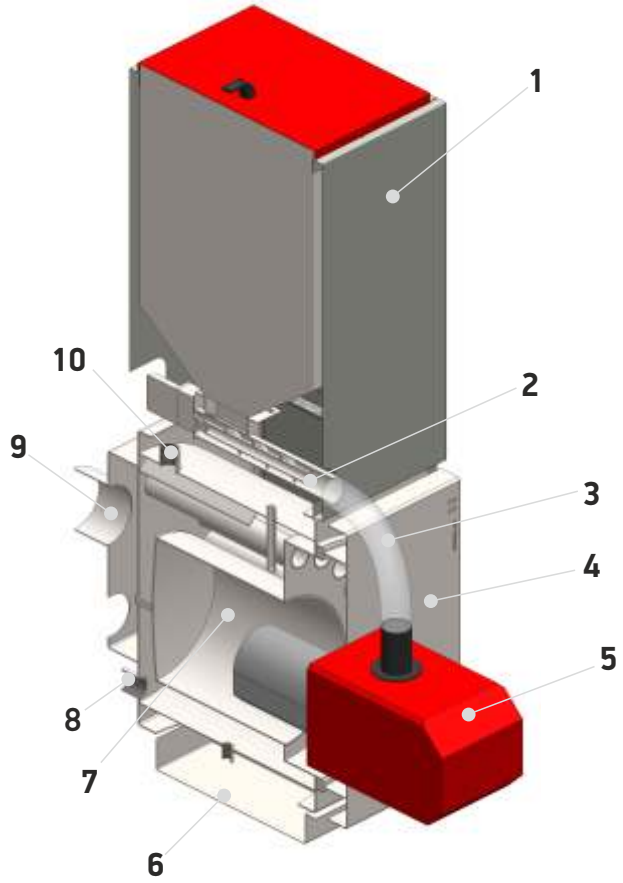
FUELS

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 ingition 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

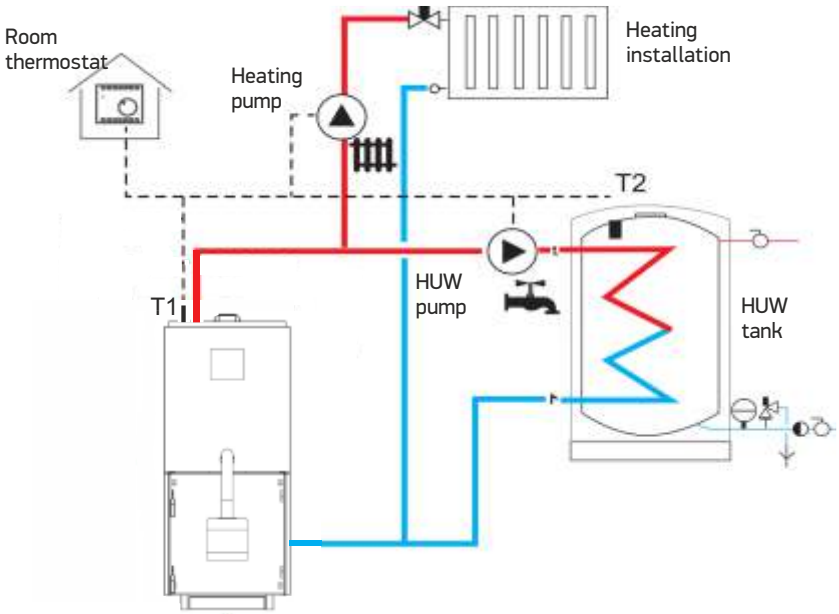
BOILER CONTROLLER

- 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.

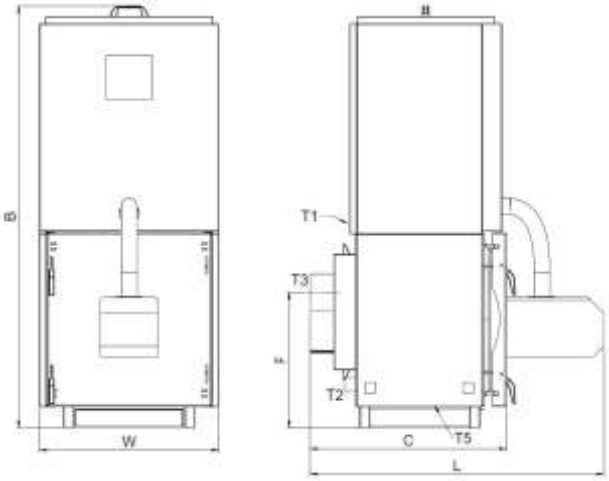
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable 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



T1 - Boiler sensor
T2 - HUW sensor (optional)

TECHNICAL DATA



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

Type			PLC MINI 25	PLC MINI 35	PLC 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	1800
	W	mm	690	690	850
	C/L	mm	745/1310	845/1310	995/1310
	F	mm	515	515	600
	T1-T2	inch	1 ¼"	1 ¼"	1 ½"
	T3	mm	Ø160	Ø160	Ø200
	T5	inch	¾"	¾"	¾"

PLC

automatic pellet unit 25-250 kW

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

3 years warranty

Safety features and automatic error diagnosis

FUELS

pellet

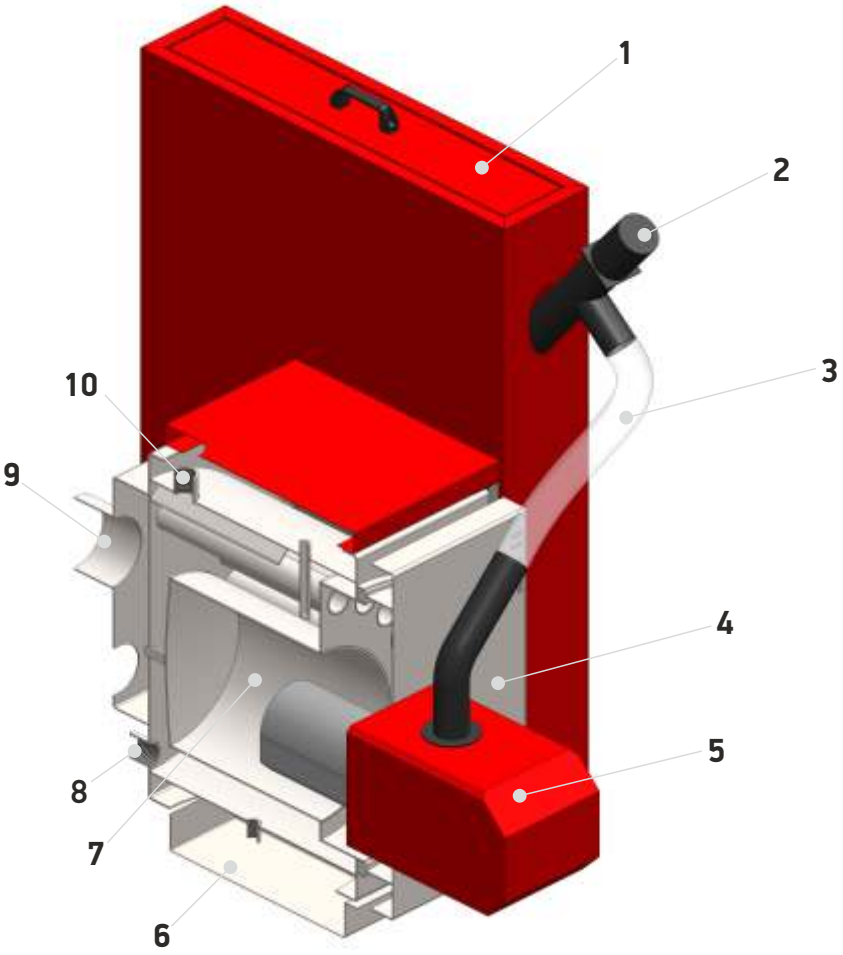
MAIN FEATURES

- 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 ingition 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



1. 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

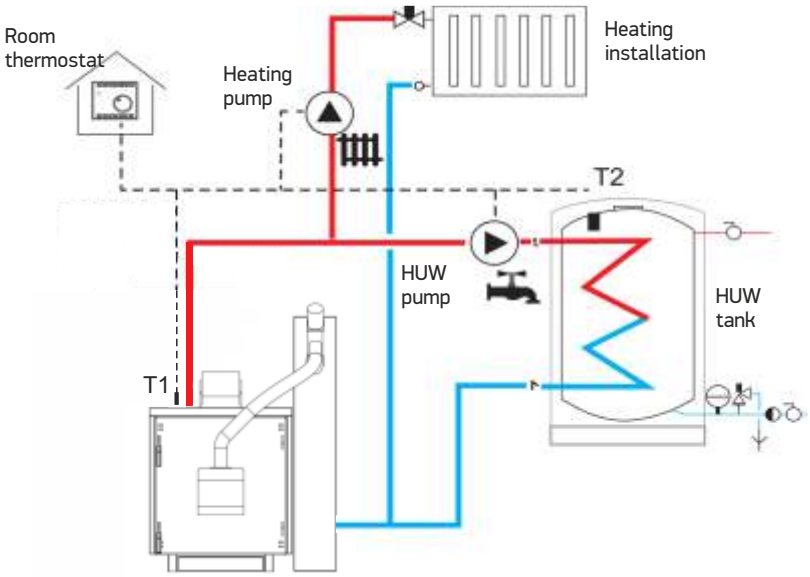
BOILER CONTROLLER

- 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

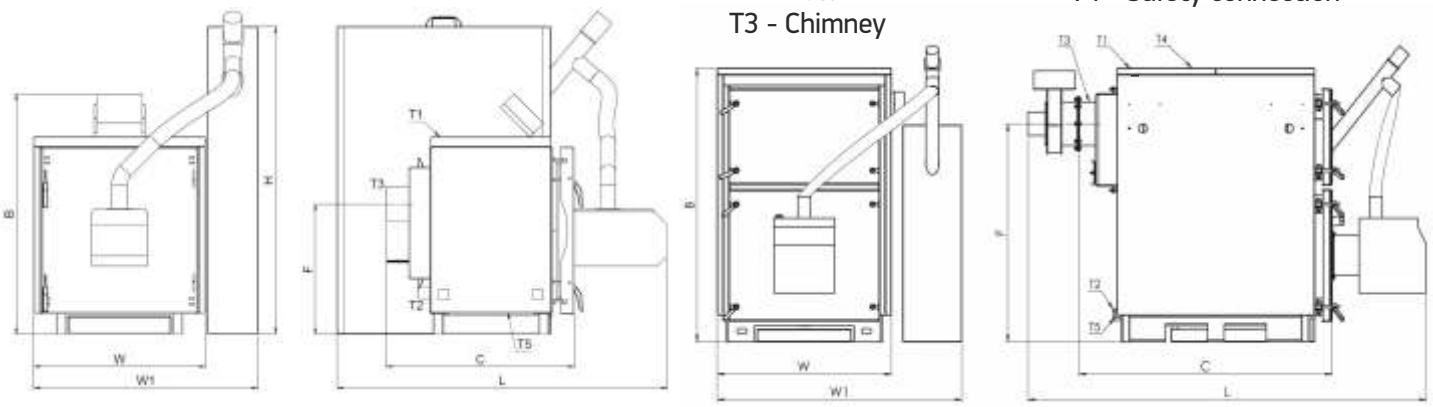


T1 - Boiler sensor
T2 - HUW sensor (optional)

TECHNICAL DATA

T1 - Outlet
T2 - Return
T3 - Chimney

T5 - Drainage
T4 - Safety connection



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	250
Efficiency		%	91	91	91	91	91	91
Max temperature		°C	90	90	90	90	90	90
Max pressure		bar	3	3	3	3	3	3
Water conents		lit	80	100	140	220	510	850
Weight		kg	230	280	455	510	980	1485
Electrical connections		V/Hz	230/50	230/50	230/50	230/50	230/50	230/50
Dimensions	H/B	mm	1220/960	1220/960	1220/960	1220/960	1540	2180
	W/W1	mm	690/890	690/890	850/1050	850/1050	1035/1455	1220/1730
	C/L	mm	745/1310	845/1310	995/1310	1095/1310	1505/2370	2080/3000
	F	mm	515	515	600	600	1225	1600
	T1-T2	inch	1 ¼”	1 ¼”	1 ½”	1 ½”	2”	DN 80
	T3	mm	Ø160	Ø160	Ø200	Ø200	Ø250	Ø300
	T5	inch	¾”	¾”	¾”	¾”	1”	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

3 years warranty

Safety features and automatic error diagnosis

FUELS


pellet


wood


briquettes

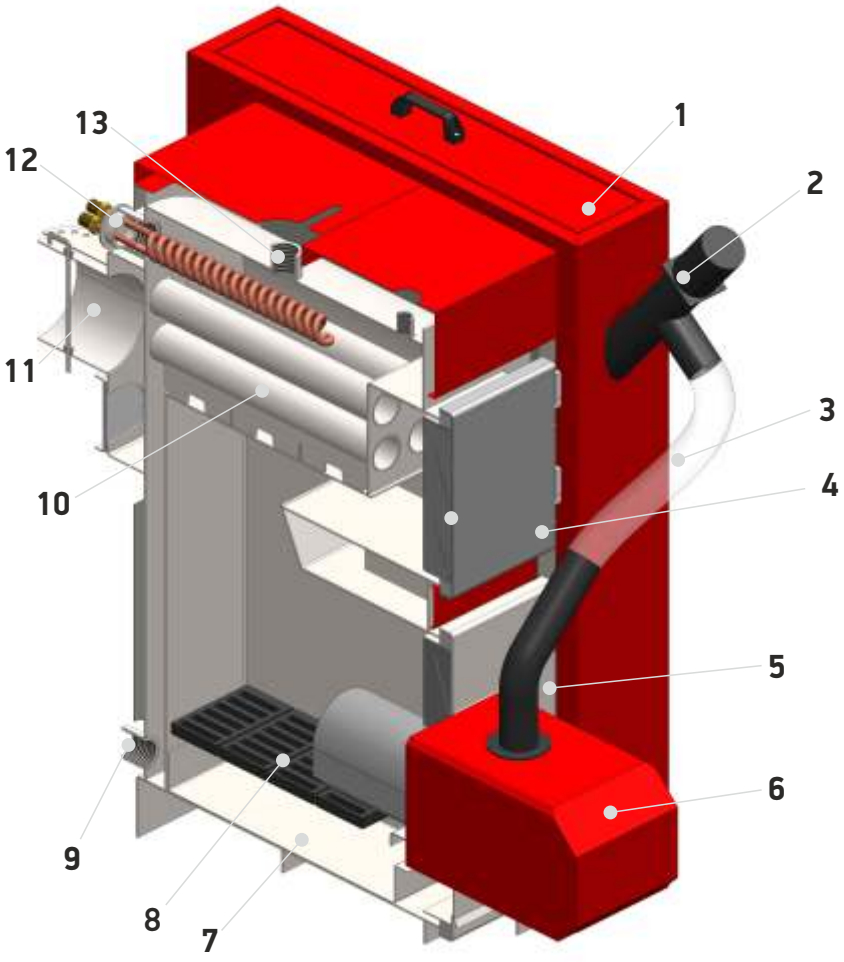
MAIN FEATURES

- 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



1. Pellet tank
2. Feeding auger
3. Melting feeding hose
4. Heat exchanger door
5. Burner / manual loading door
6. Pellet burner
7. Ash box
8. Wood grates
9. Boiler return
10. Tube heat exchanger
11. Chimney
12. Safety heat exchanger (optional)
13. Boiler outlet

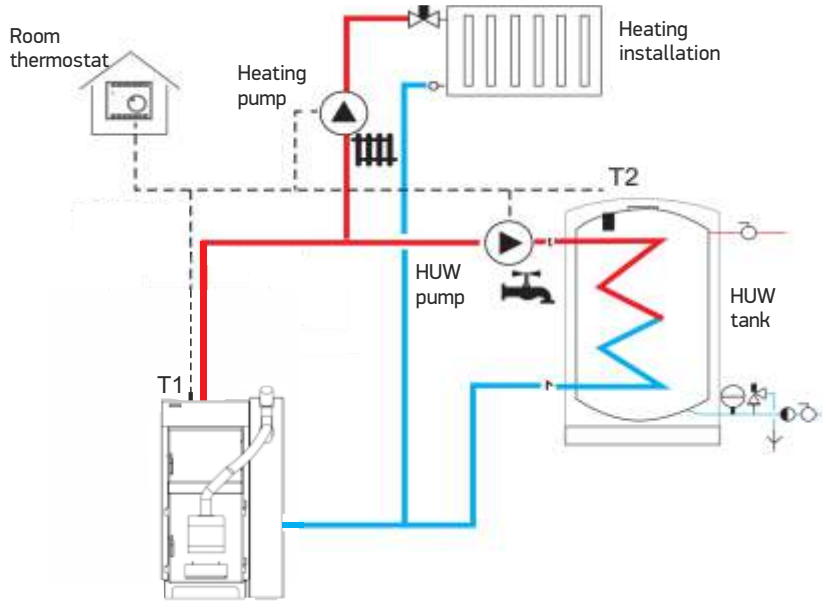
BOILER CONTROLLER

- Automatic power level
- Central heating pump
- Hot water/buffer pump
- Room thermostat
- Alarm signals
- abc 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.

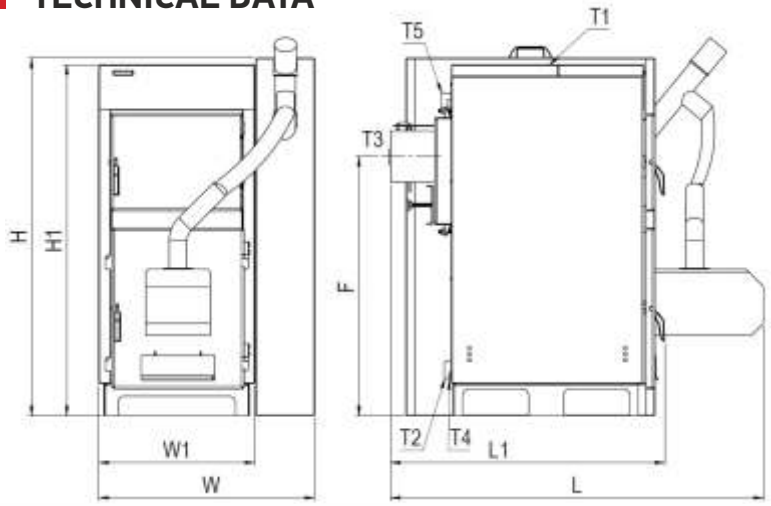
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable 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)

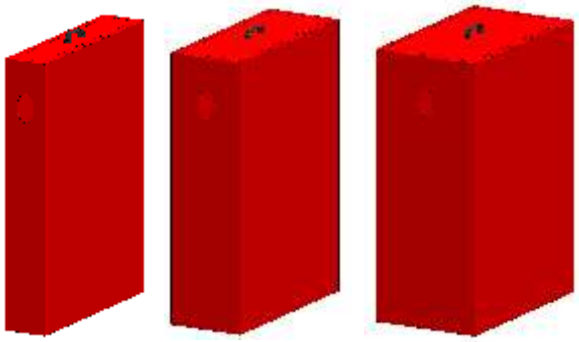
TECHNICAL DATA



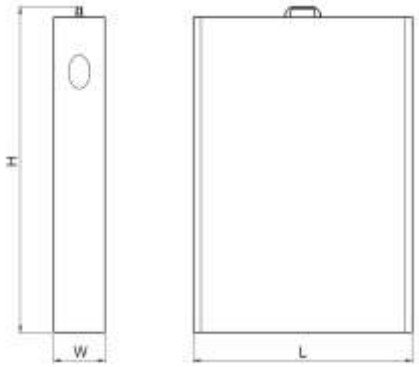
T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Drainage
T5 - Safety heat exchanger

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	100/100
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	
	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 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	inch	¾"	¾"	¾"	¾"	¾"	¾"	¾"
	T5	inch	2"	2"	2"	2"	2"	2 ½"	2 ½"

OPTIONAL ACCESSORIES



SLIM MID MAX



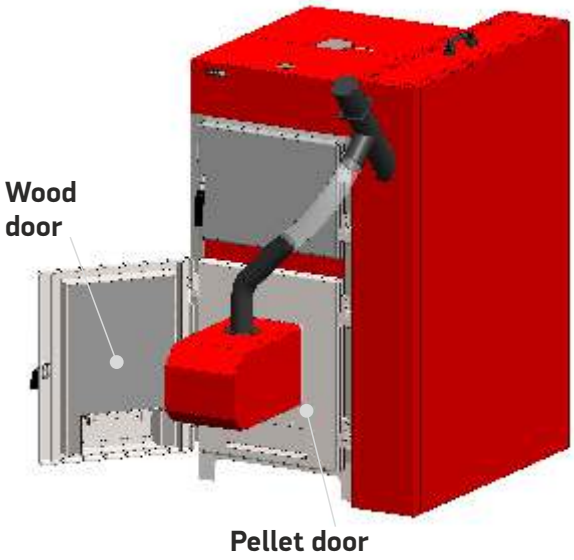
Fuel tank

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	500
	H	mm	1260	1260	1260
	L	mm	850	850	850

*Weight is calculated for bulk density 700kg/m^3



Double door kit

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

COMPACT

pellet boiler 25-35 kW

COMPACT boiler is a complete pellet boiler room in compact dimensions, including all the necessary equipment of the installation.

The innovative design with vertical heat exchanger offers compact dimensions, high efficiency and easy cleaning.

The cleaning of the heat exchanger is performed by means of an **integrated cleaning mechanism**, actioned by a manual lever.

The boiler has an incorporated fuel tank of big capacity to ensure long autonomy.

The pellet feed is done through a precision auger, offering maximum control over the combustion as well as fuel economy.

The whole system is regulated by a digital controller, which can adapt the air supply to the pellets quality by user correction.

All boilers come completely equipped with pump, expansion vessel, air relief valve.

FUELS

pellet

MAIN FEATURES

- Complete boiler room in compact dimensions
- Vertical heat exchanger with three passes of the fumes
- High efficiency stainless steel burning grate
- Integrated mechanical cleaning system with lever
- **Forced draugt with exhaust fan**
- Digital controller with multiple functions
- Automatic power setup
- Integrated chronothermostat with individual settings for every day of the week
- Integrated room temperature sensor or connection with an exteranl room thermostat
- Automatic error diagnosis

BOILER CONTROLLER

Airflow technology

Automatic power setup

Weekly programmer

Room thermostat

Alarm signals

abc Multilingual menu

The boiler controller ensures the smooth and safe operation of the combustion and the heating system. The combustion is regulated by a unique **formula technology** with an **airflow sensor,** ensuring **optimal combustion adjustment at all times.**

- LCD screen (2x20signs)
- Five languages : English, Greek, Italian, French, Spanish
- Electric cable for connection
- GSM modem connection (optional)
- Room thermostat connection
- Automatic 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

AIRFLOW TECHNOLOGY

The AIRFLOW technology is based on an air flow sensor which automatically recognizes the combustion quality and the fuel characteristics and adjusts the parameters accordingly.

The settings for pellet combustion are effected when the boiler and the chimney are clean and with a specific type of pellet. This means, that when the pellet quality and characteristics are changed (size, lenght, calorific power), and duuring the boiler operation, while ash is accummulating in the heat exchanger and the chimney, the initial settings are no more optimal, resulting in incomplete combustion, ignition error, high fuel consumption.

The **airflow sensor**, combined with the unique **formula technology** in the controller algorithm, automatically adjusts the air flow during the boiler function under real conditions and at all times, thus ensuring **perfect combustion, fuel savings, less ash, fewer errors and service problems.**

ADVANTAGES:

- Function even with low efficiency chimney
- Function with any quality of pellets
- Automatic air adjustment according to weather conditions

TECHNICAL DATA

Type		COMPACT 25	COMPACT 35
Nominal power	kW	25	35
Global power (max-min)	kW	27,8-9,9	35,0-10,6
Pellet consumption (max-min)	kg/h	5,5-2,2	7,7-3,1
Efficiency	%	94,5	94,5
Water contents	lit	28	40
Chimney diameter	mm	80	80
Fuel tank	kg	55	70
Fuel autonomy	h	20	20
Power consumtion min-max	W	525-225	540-240
Dimensions LxWxH	mm	860x590x1190	880x590x1355
Weight	kg	175	200
Electrical connections	V/Hz	230/50	230/50

PROFI DUO

combined wood and pellet unit 150-400 kW

PROFI DUO is a fully automatic pellet unit. It consists of a high efficiency steeil boiler, a pellet burner, feeder and a pellet tank.

The boiler construction is 3-pass for high efficiency up to 90%. The burner is delivered with automatic cleaning by means of compressed air (an air compressor is required) and feeder of 2m length.

The boiler is equipped with exhaust fan (optional), which ensures optimum circulation of the exhaust gases and heat transfer. The boiler can be additionally equipped with automatic ash removal, and pneumatic cleaning of the tubes.

The operation of all the devices is controlled by a digital control panel, which offers numerous functional and safety features.

Combined function of wood and pellet

Burner automatic cleaning system with compressed air

Advanced digital controller

Ash extraction

Exhaust fan control

FUELS


pellet

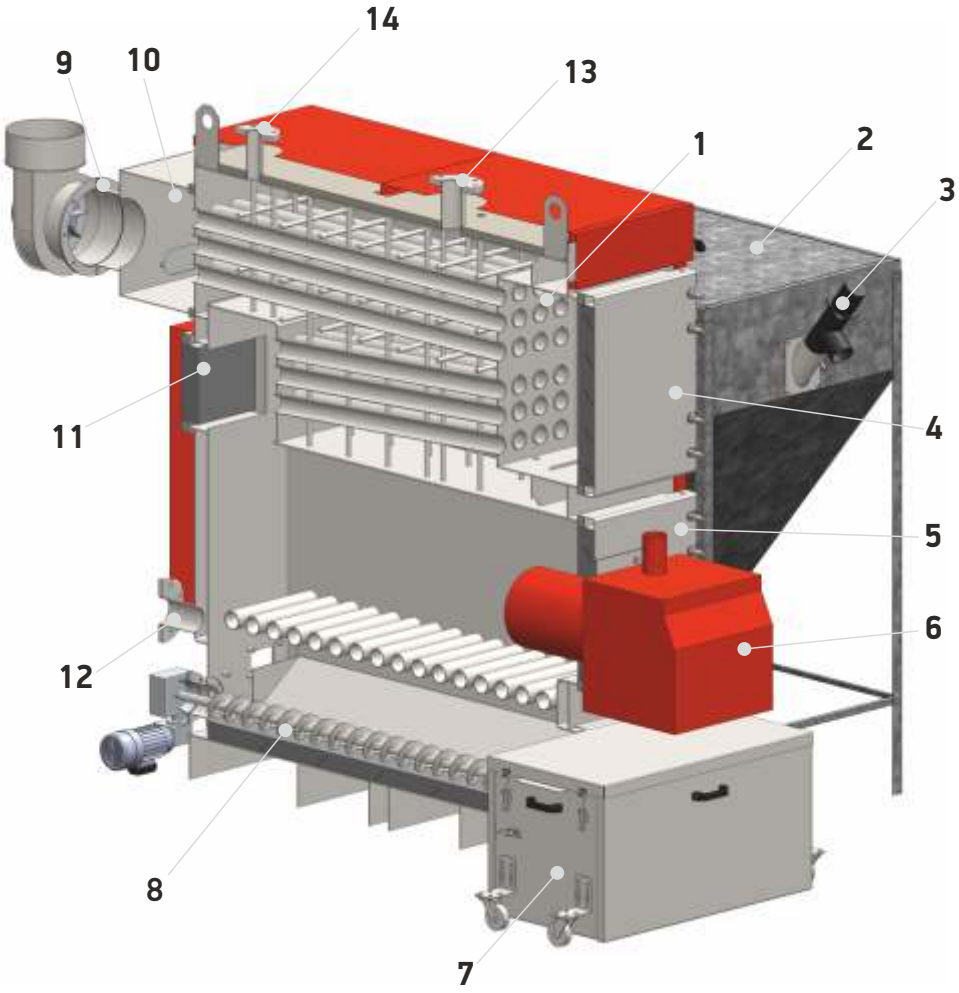

wood


briquettes

MAIN FEATURES

- Three-pass boiler construction with horizontal tubes exchanger for high efficiency
- Automatic combustion of pellet by means of a pellet burner
- Exhaust fan with electronic regulation for optimal burner function and steady draught (optional)
- Built-in burner controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested)
- Possibility to manually function on wood
- Automatic power modulation from 30% up to 100%
- Combined pellet unit for wood and pellet
- Automatic power setup according to heat demand
- Automatic pellet feed according to power level
- Various silo types to choose
- Ceramic ignition element for fast ignition and long lifespan
- Automatic ash extraction (optional)
- Pneumatic cleaning of the tubes (optional)

BOILER CONSTRUCTION



1. Three-pass heat exchanger
2. Pellet tank
3. Feeding auger
4. Door for heat exchanger cleaning
5. Burner / manual loading door
6. Pellet burner
7. Ash box
8. Automatic ash extraction
9. Exhaust fan
10. Chimney
11. Rear access door
12. Boiler return
13. Boiler outlet
14. Boiler safety connection

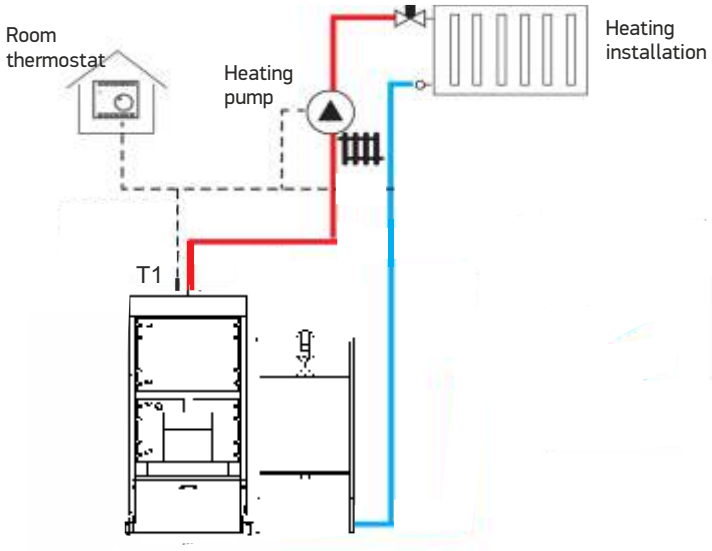
BOILER CONTROLLER

- Automatic power level
- Central heating 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.

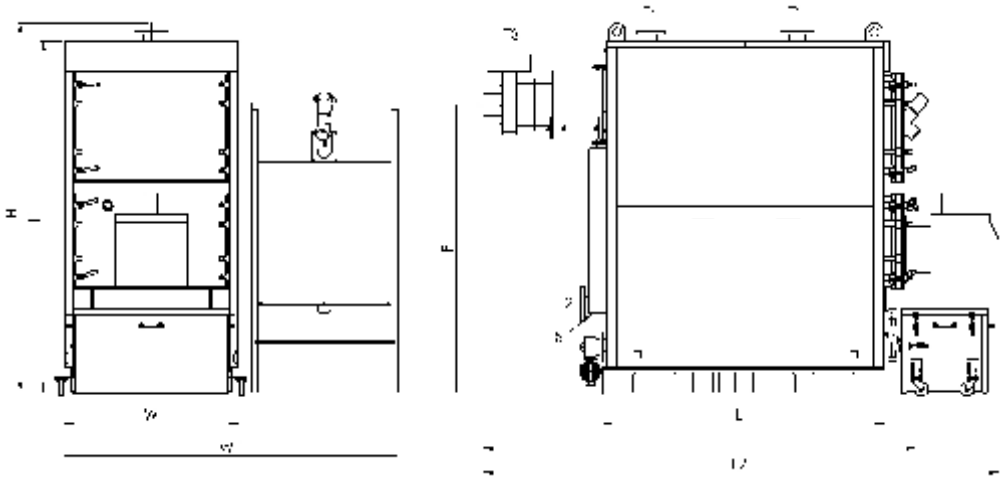
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- Exhaust fan speed control according to power level
- Electric cable for connecting CH pump
- 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

TECHNICAL DATA

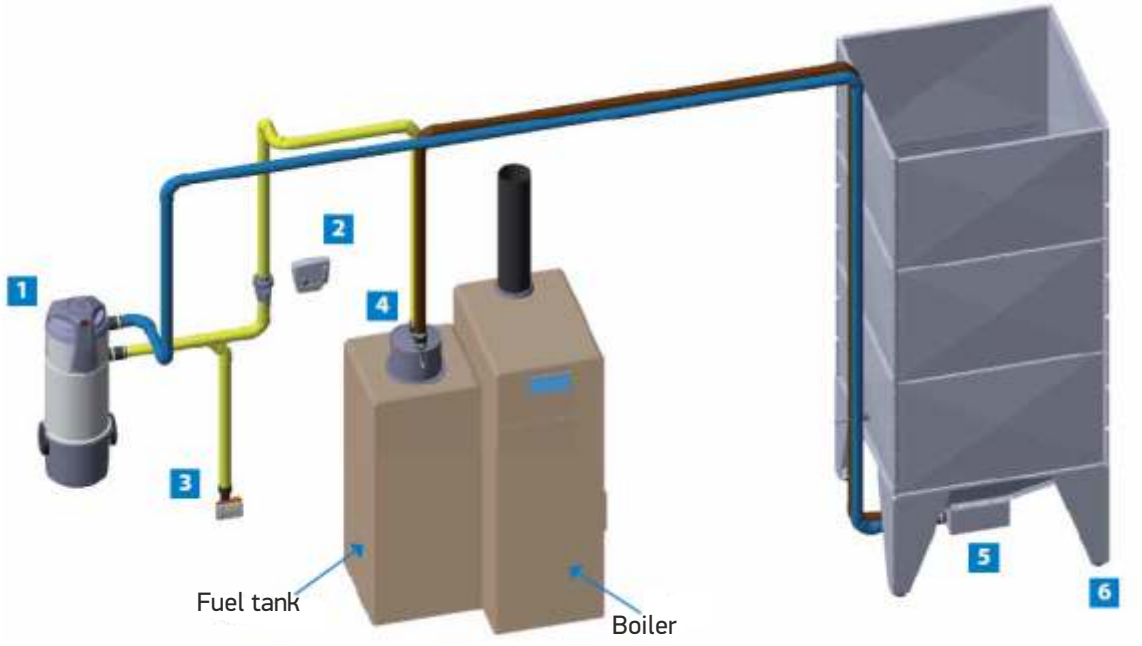


T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Safety connection
T5 - Drainage

Type			PROFI DUO 150	PROFI DUO 200	PROFI DUO 250	PROFI DUO 320	PROFI DUO 400
Nominal power		kW	150	200	250	320	400
Efficiency pellet		%	91	91	91	91	91
Max temperature		°C	90	90	90	90	90
Max pressure		bar	3	3	3	3	3
Water contents		lit	370	490	610	760	870
Weight		kg	1370	1530	1675	1920	2130
Electrical connection		V/Hz	230/50	230/50	230/50	230/50	230/50
Dimensions	H/H1	mm	2060/2165			2240/2345	
	W /W1	mm	1025/1955			1125/2055	
	F	mm	1685	1685	1685	1830	1830
	L/L1/L2	mm	1250/2135/2530	1450/2335/2830	1650/2535/3030	1650/2600/3100	1800/2750/3250
	T1-T2	mm	DN 65	DN 80	DN 80	DN 80	DN 80
	T3	mm	Ø250	Ø250	Ø250	Ø300	Ø300
	T4	mm	DN 50	DN 50	DN 50	DN 50	DN 50
	T5	inch	1"	1"	1"	1"	1"

ADVANCE SYSTEM

pellet storage system and pneumatic tranport



1. Vacuum unit NOVA 3
2. DRIVE controller
3. Vacuum air inlet
4. Pellet dispenser
5. Pellet box
6. Fuel tank

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

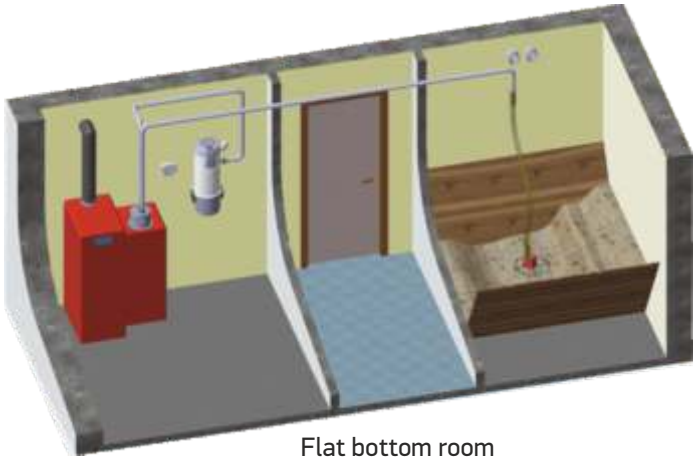
This system is completely automatic and it allows the automatic feeding of fuel without the operator intervention. Furthermore, it offers the advantage that the fuel can be stored far from the boiler, with quantities that change according to available storage space.

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.

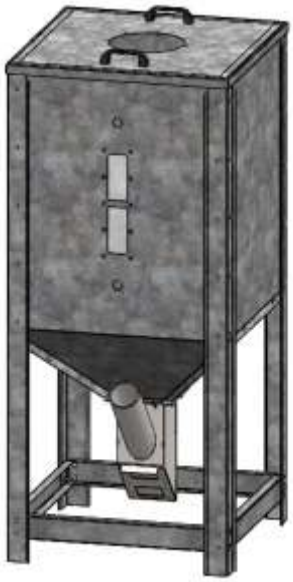
Vaccum unit NOVA 3

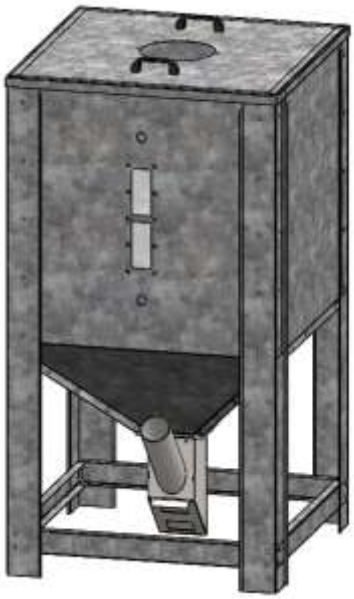
NOVA 3 is a compact vacuum unit, with all neccessary equipment pre-assembled on a single unit. The vacuum unit has an integrated compact dispenser, able to keep constantly fed the tank of biomass boilers, and an integrated controller with fuel feeding regulation.

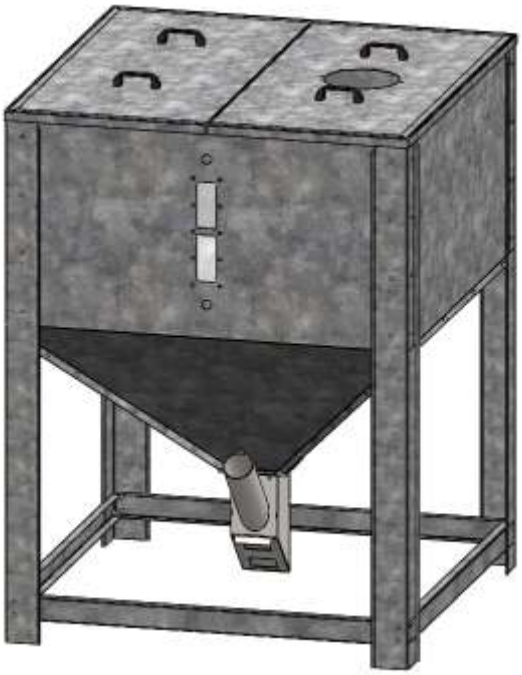
Flexible hose

Antistatic plastic hose Ø50mm.

STORAGE SYSTEMS



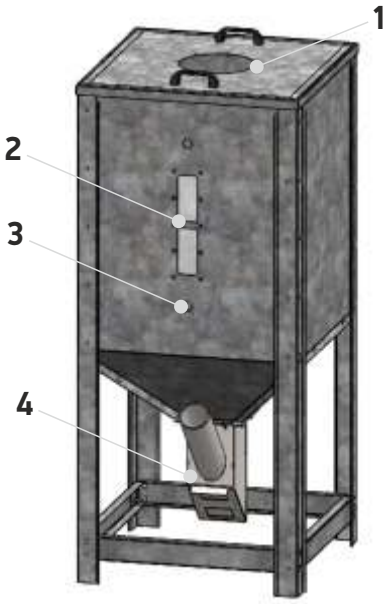




PELLET TANK

Made of galvanized steel. Available in three models according to requested autonomy.

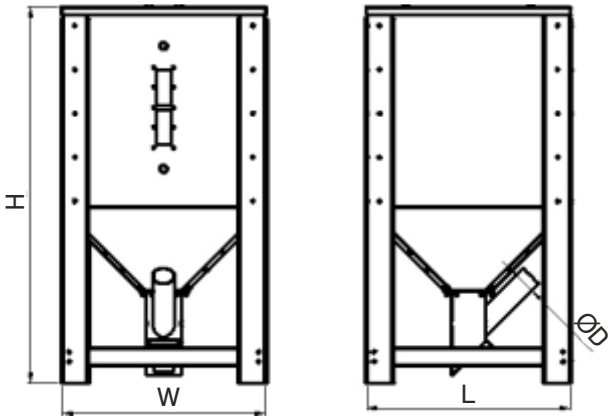
It is equipped with lid and plastic handle, inspection window for the fuel level, possibility of installing an automatic fuel filling system by means of a pneumatic vaccum and level sensors (optional).



1. Lid with handle, equipped with flange for mounting pellet vacuum
2. Fuel level inspection window
3. Level sensor hole (min-max)
4. Feeder support with rotating adjustment and emptying door

Type			400 L	600 L	1200 L
Volume / wieght pellet*		lit/kg	380/265	590/415	1210/850
Weight		kg	60	80	115
Dimensions	W	mm	660	810	1210
	H	mm	1500	1500	1600
	L	mm	660	810	1210
	D	mm	80	80	80

*Weight is calculated for bulk density 700kg/m³



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

3 years product warranty

FUELS


wood

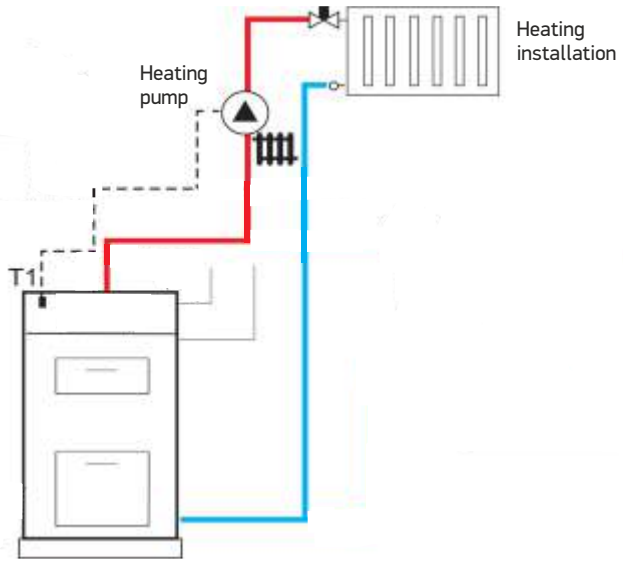

briquettes


carbon

MAIN FEATURES

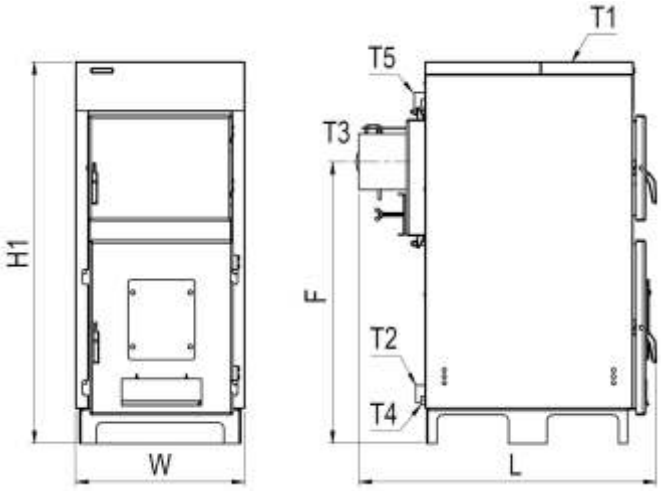
- Big fire chamber for high volume of fuel loading
- Three pass construction for high efficiency and small dimensions
- Robust construction
- Tubed heat exchanger
- Easy installation of a pellet burner
- Economic function
- Function with chain thermostat regulator
- Removable safety heat exchanger (optional)

INSTALLATION SCHEME



T1 - Immersion thermostat (not included)

TECHNICAL DATA



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

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 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	inch	¾"	¾"	¾"	¾"	¾"	¾"	¾"
	T5	inch	2"	2"	2"	2"	2"	2 ½"	2 ½"

ECOWOOD PLUS

solid fuel boiler with electronic control 25-100 kW

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

3 years product warranty

Safety devices and alarm signals

FUELS


wood

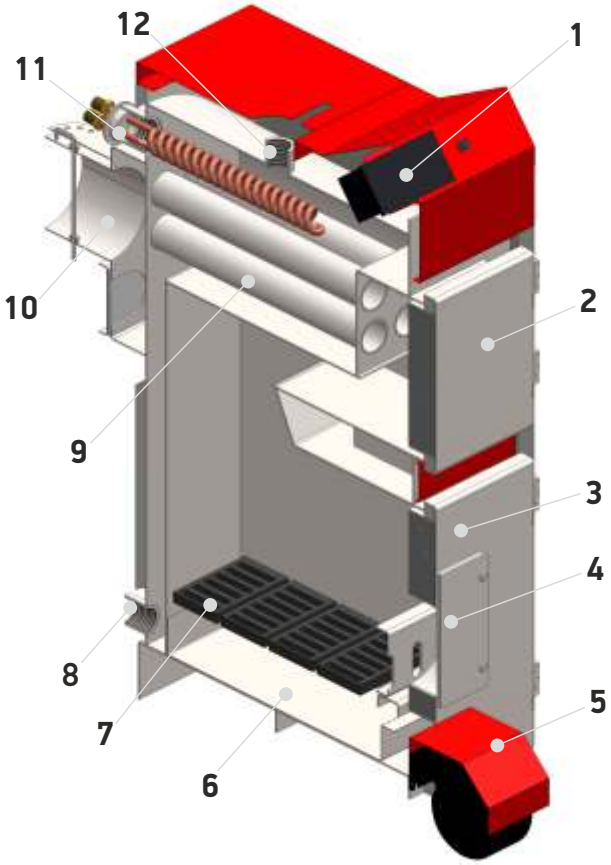

briquettes


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
- 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
- Ingition mode and flame supervision mode
- Overheating alarm signal

BOILER CONSTRUCTION



1. Digital control panel
2. Heat exchanger door
3. Manual loading and ash removal door
4. Pellet burner flange
5. Modulating fan
6. Ash box
7. Wood grates
8. Boiler return
9. Tube heat exchanger
10. Chimney
11. Safety heat exchanger (optional)
12. Boiler outlet

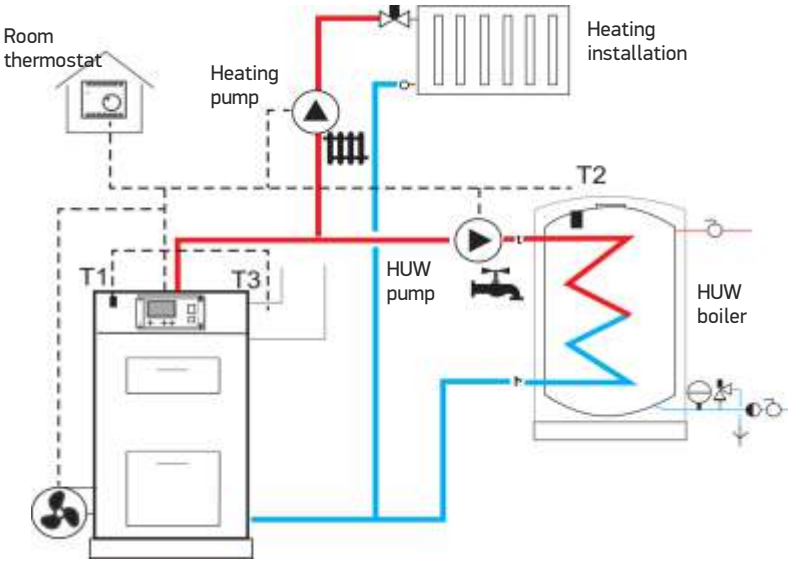
CONTROLLER ECOMAX 200W

Version ECOWOOD PLUS is equipped with a modulating fan and a digital controller **ecoMAX 200W**. 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.

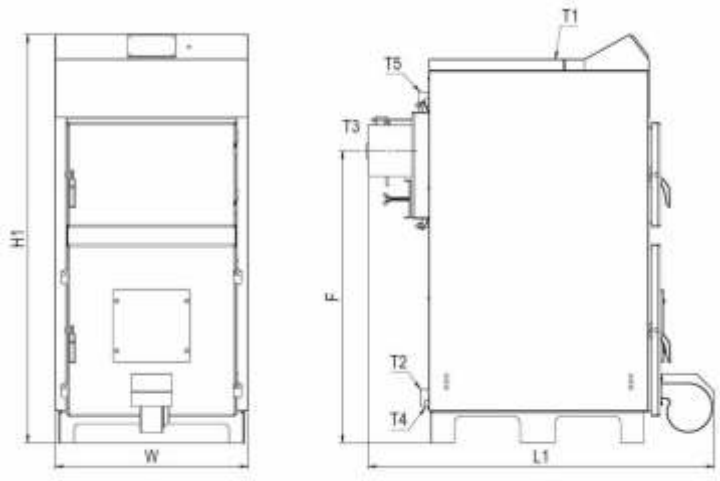
Fan modulation
Heating pump
Hot water pump
Summer/winter mode
Exhaust temperature regulation
Room thermostat
Alarm signals
Overheating protection

INSTALLATION SCHEME



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

TECHNICAL DATA



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

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 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200	Ø200
	T4	inch	¾"	¾"	¾"	¾"	¾"	¾"	¾"
	T5	inch	2"	2"	2"	2"	2"	2 ½"	2 ½"

PROFI WOOD

solid fuel boiler 150-400 kW

PROFI WOOD is the industrial series of solid fuel boiler, with power range 150-400 kW. It is designed for function on any type of solid fuel: wood, agricultural residues, carbon, briquettes, etc.

The boiler construction is 3-pass for high efficiency. It 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 a flange is positioned for installation of a pellet burner at any time.

The boiler is available in two versions:

PROFI WOOD STANDARD version is equipped with chain thermostat regulator.

PROFI WOOD PLUS version is equipped with two modulating fans and a digital controller. 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

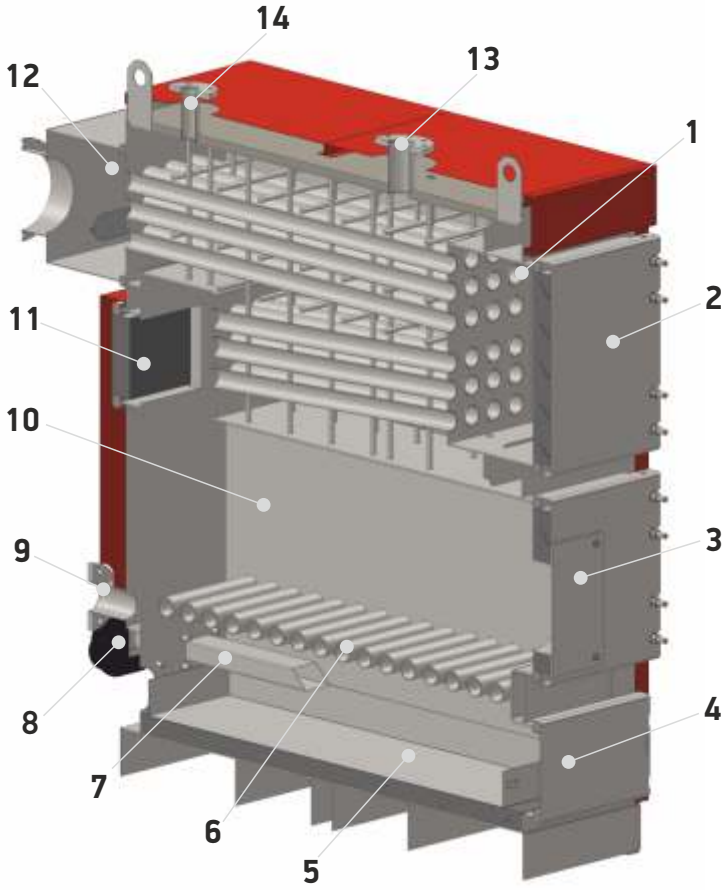
3 years warranty

Safety devices and alarm signals

MAIN FEATURES

- Three-pass boiler construction with horizontal tubes exchanger for high efficiency
- Big fire chamber for high volume of fuel loading
- High efficiency
- Easy installation of a pellet burner
- 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. Three-pass heat exchanger
2. Door for heat exchanger cleaning
3. Pellet burner connection flange
4. Ash removal door
5. Ash box
6. Grate made of water tubes
7. Combustion air distributor
8. Modulating fan
9. Boiler return
10. Big volume fire chamber
11. Rear access door
12. Chimney
13. Boiler outlet
14. Boiler safety connection

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.

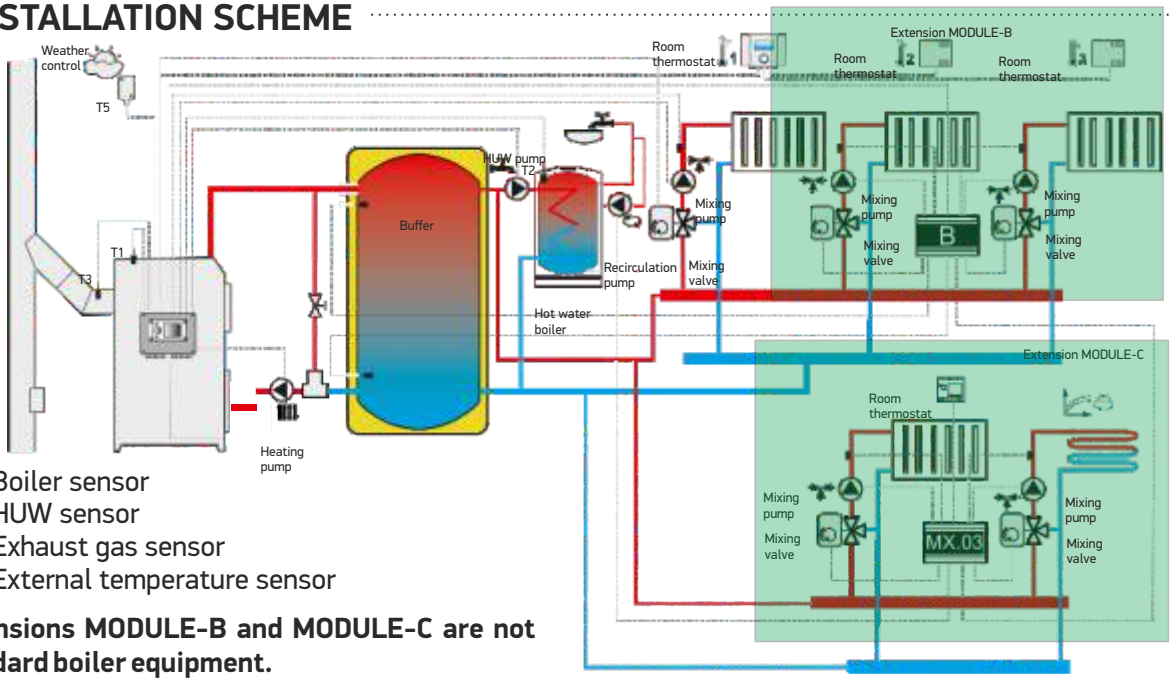
The design of the controller is modular, which enables BUS extension for control of further devices.

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 comand 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
- Heating pump
- Hot water pump
- Mixing valve pump
- Recirculation pump
- Weather control
- Buffer control
- Boiler switch
- Mixing valve
- Summer/winter mode
- Exhaust temperature regulation
- Room thermostat
- Alarm signals
- Overheating protection

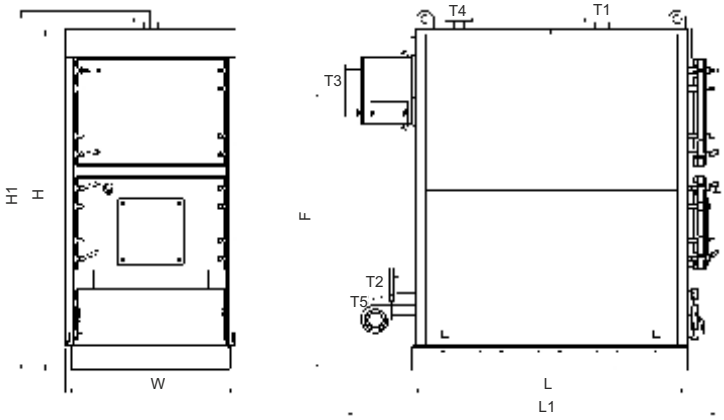
INSTALLATION SCHEME



T1 - Boiler sensor
T2 - HUW sensor
T4 - Exhaust gas sensor
T5 - External temperature sensor

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

TECHNICAL DATA



T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Safety connection
T5 - Drainage

Type			PROFI WOOD 150	PROFI WOOD 200	PROFI WOOD 250	PROFI WOOD 320	PROFI WOOD 400
Nominal power		kW	150	200	250	320	400
Efficiency		%	86	86	86	86	86
Max temperature		°C	90	90	90	90	90
Max pressure		bar	3	3	3	3	3
Water contents		lit	370	490	610	760	870
Weight		kg	1280	1430	1575	1825	1960
Electrical connection		V/Hz	230/50	230/50	230/50	230/50	230/50
Dimensions	H/H1	mm	2060/2165			2240/2345	
	W	mm	1025			1125	
	F	mm	1685	1685	1685	1830	1830
	L/L1	mm	1250/1835	1450/2035	1650/2235	1650/2235	1800/2385
	T1-T2	mm	DN 65	DN 80	DN 80	DN 80	DN 80
	T3	mm	Ø250	Ø250	Ø250	Ø300	Ø300
	T4	mm	DN 50	DN 50	DN 50	DN 50	DN 50
	T5	inch	1"	1"	1"	1"	1"

OPTIONAL ACCESSORIES

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 x40

This is a wireless device connected with radio module to the boiler. The ECOSTER x40 is equipped with room thermostat, with a function of setting a temperature schedule.

It shows alarms and function parameters of the boiler through 2-way communication.

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 x80

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

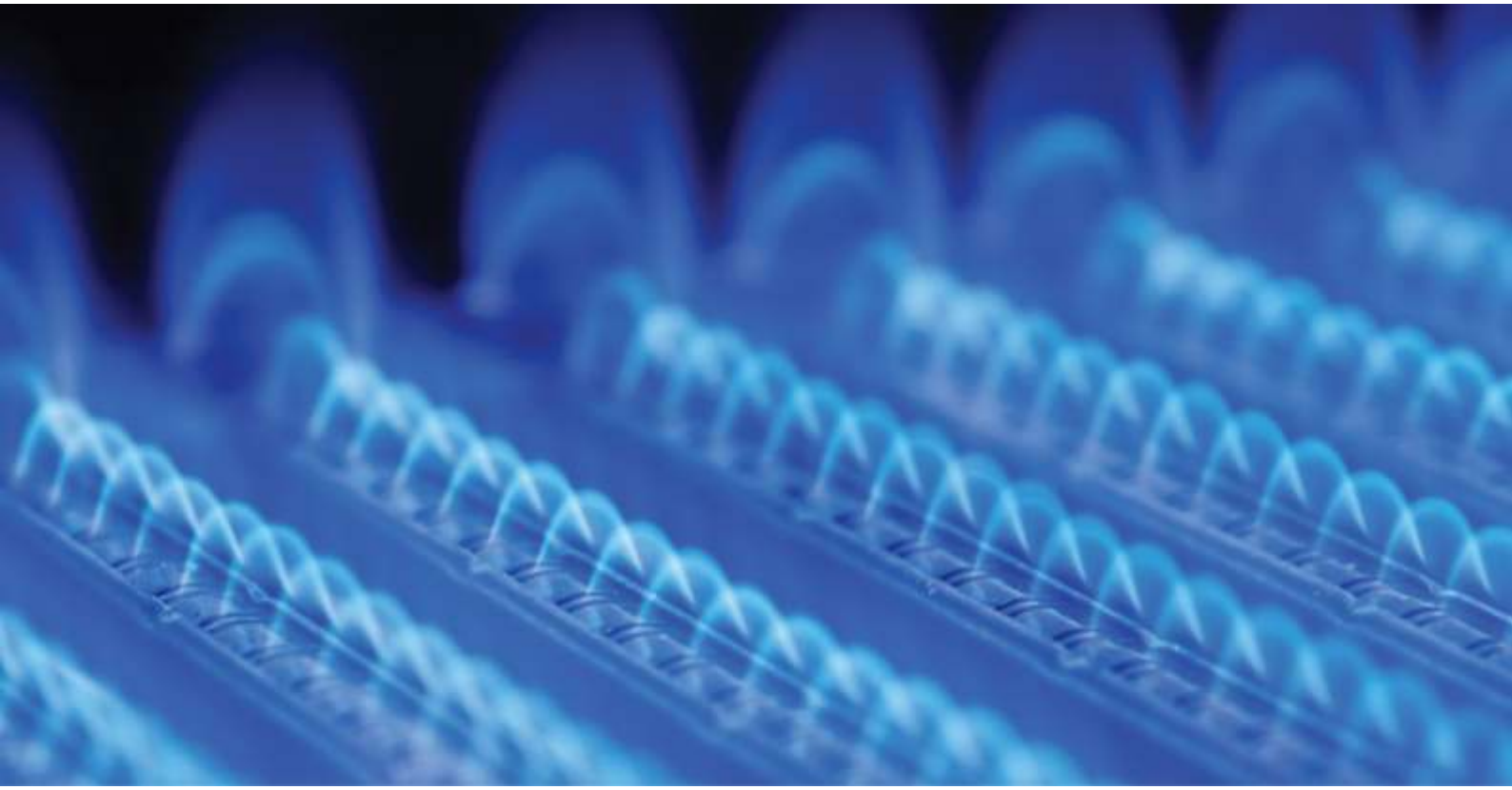
The connection is wireless through radio module.

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 35-4.000 kW

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.

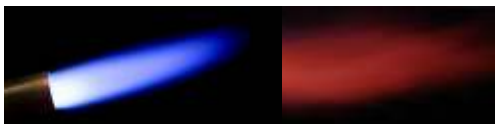
Its construction is cylindrical, with large fire chamber, improved heat exchanger surfaces and high performance turbinators. It is of high back-pressure in the fire chamber, designed to function with pressurized liquid or gas burners (the burner is not included).

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 120-700, 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.

FUELS



gas/liquid

P235GH **High quality materials**

Heating pump control

1/2 **Control panel for one/two stage burner**

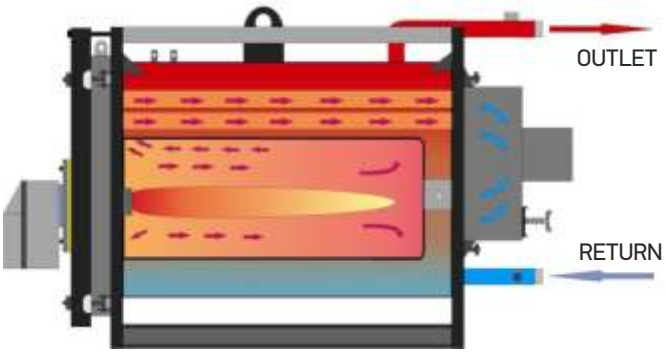
3 years **3 years warranty**

Safety thermostat

MAIN FEATURES

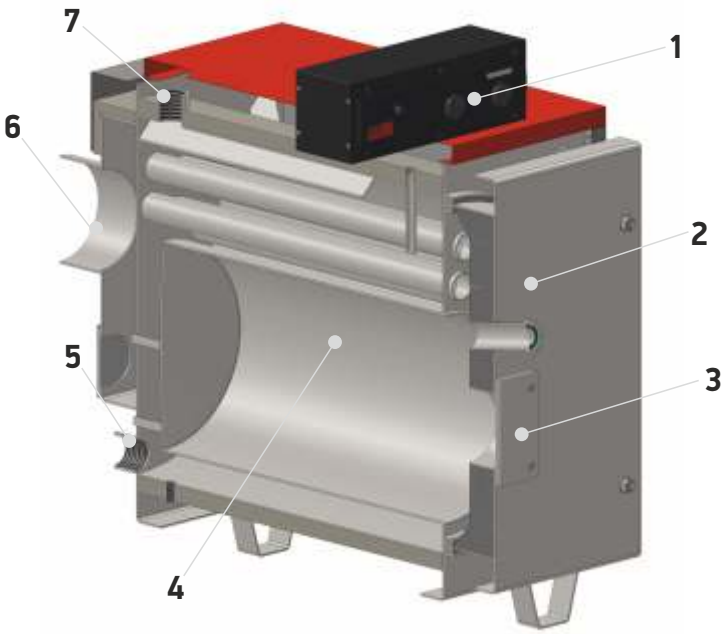
- Round-shaped fire chamber with large heat exchange surface
- Robust construction, without elements
- High efficiency, up to 93%
- Comply to requirements of the latest European Energy Efficiency Directive
- Tubed heat exchanger with stainless steel turbinators
- Cooled-bottom construction
- Control 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 compenents

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
7. Boiler outlet

CERTIFICATION

Each boiler passes through several quality control tests throughout the production process. Every boiler is individually tested under pressure for hydraulic resistance.

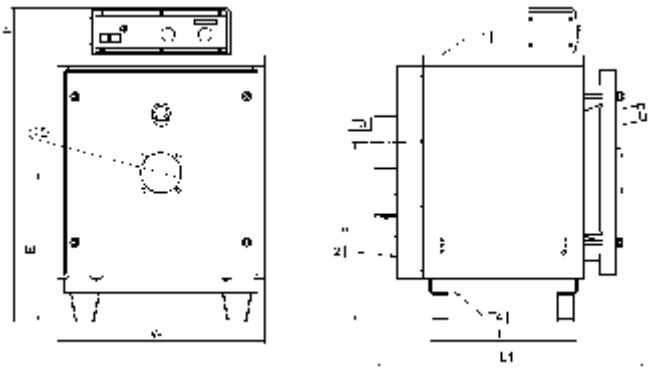
The contruction is performed and certified according to European Standard concerning pressure equipment 2014/68/EC by TUV AUSTRIA.

The production quality system is certified by EN ISO:9001.

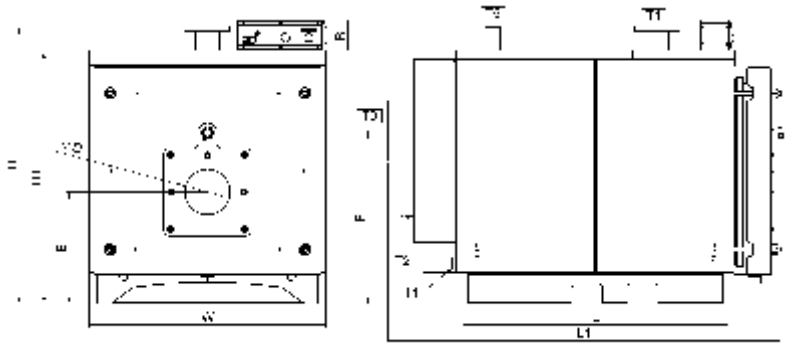
TECHNICAL DATA

Type	Power	Temp. max.	Pressure max.	Back pressure	Fire chamber dimensions ØxL	Water contents	Water pressure drop	Effici-ency	Weight
	kW	°C	bar	mbar	mm	lit	mbar ΔT=20K	%	kg
ENP 35	35	90	6	0,2...0,4	320x400	55	2	91,5	165
ENP 70	70	90	6	0,4...0,6	320x600	75	3	91,5	195
ENP 90	90	90	6	0,4...0,6	320x750	95	5	91,5	220
ENP 120	120	90	6	0,6...1,0	370x700	139	6	91,5	260
ENP 140	140	90	6	0,6...1,0	370x850	165	7	91,5	290
ENP 180	180	90	6	0,6...1,0	370x1050	200	9	91,5	330
ENP 230	230	90	6	1,0...2,0	450x1000	197	12	93	510
ENP 300	300	90	6	1,0...2,0	450x1240	240	15	93	575
ENP 350	350	90	6	1,0...2,0	450x1430	270	18	93	635
ENP 420	420	90	6	1,0...2,0	610x1100	580	18	93	945
ENP 500	500	90	6	1,0...2,0	610x1250	640	22	93	1.010
ENP 600	600	90	6	1,0...2,0	610x1500	740	22	93	1.120
ENP 700	700	90	6	1,0...2,0	610x1700	820	25	93	1.205
ENP 800	800	90	6	3,0...4,0	735x1490	960	35	93	1.650
ENP 900	900	90	6	3,0...4,0	735x1690	1.060	35	93	1.760
ENP 1000	1.000	90	6	3,0...4,0	735x1840	1.130	40	93	1.845
ENP 1300	1.300	90	6	3,0...4,0	835x1950	1.890	40	93	2.580
ENP 1500	1.500	90	6	3,0...4,0	835x2200	2.070	40	93	2.780
ENP 1800	1.800	90	6	3,0...4,0	835x2500	2.290	40	93	2.980
ENP 2000	2.000	90	6	3,0...4,0	835x2650	2.400	45	93	3.090
ENP 2500	2.500	90	6	4,0...6,0	935x2960	4.500	45	93	4.995
ENP 3000	3.000	90	6	4,0...6,0	935x3390	5.000	45	93	5.450
ENP 4000	4.000	90	6	4,0...6,0	935x3820	5.700	45	93	5.885

DIMENSIONS



ENP 35-180



ENP 230-4000

Type	H	B	E	D	W	F	L1	T1-T2	T3	T4	T5
	mm							inch	mm	inch	
ENP 35	820	145	460	125	640	555	840	1 ½"	160	½"	-
ENP 70	820	145	460	125	640	555	1040	1 ½"	160	½"	-
ENP 90	820	145	460	125	640	555	1190	1 ½"	160	½"	-
ENP 120	915	145	420	150	755	615	1165	2"	200	½"	-
ENP 140	915	145	420	150	755	615	1315	2"	200	½"	–
ENP 180	915	145	420	150	755	615	1515	2"	200	½"	-
ENP 230	1135	145	480	185	860	725	1630	DN 65	250	1"	2"
ENP 300	1135	145	480	185	860	725	1870	DN 65	250	1"	2"
ENP 350	1135	145	480	185	860	725	2060	DN 80	250	1"	2"
ENP 420	1350	145	545	220	1160	840	1930	DN 100	300	1 ¼"	2 ½"
ENP 500	1350	145	545	220	1160	840	2080	DN 100	300	1 ¼"	2 ½"
ENP 600	1350	145	545	220	1160	840	2330	DN 100	300	1 ¼"	2 ½"
ENP 700	1350	145	545	220	1160	840	2530	DN 125	300	1 ¼"	2 ½"
ENP 800	1590	145	680	270	1300	965	2700	DN 125	400	1 ¼"	DN 65
ENP 900	1590	145	680	270	1300	965	2900	DN 125	400	1 ¼"	DN 65
ENP 1000	1590	145	680	270	1300	965	3050	DN 125	400	1 ¼"	DN 65
ENP 1300	1855	145	840	270	1520	1110	3225	DN 150	450	1 ½"	DN 80
ENP 1500	1855	145	840	270	1520	1110	3475	DN 150	450	1 ½"	DN 80
ENP 1800	1855	145	840	270	1520	1110	3775	DN 200	450	1 ½"	DN 100
ENP 2000	1855	145	840	270	1520	1110	4175	DN 200	450	1 ½"	DN 100
ENP 2500	2100	145	1035	425	1900	1145	4480	DN 250	620	1 ½"	DN 125
ENP 3000	2100	145	1035	425	1900	1145	4910	DN 250	620	1 ½"	DN 125
ENP 4000	2100	145	1035	425	1900	1145	5340	DN 250	620	1 ½"	DN 125

ENERDENSE

liquid-gas fuel condensing boiler 125-600 kW

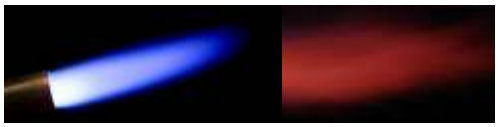
ENERDENSE is a high efficiency steel boiler with condensing heat exchanger, for function with liquid or gaseous fuel.

The heat exchanger is made of special inox steel, with high corrosion resistance, which ensures optimal heat transfer from the exhaust gas to the water.

The function is based on reversed flame in the fire chamber, the exhaust gases are then guided to the tubes of the third pass positioned at the lower part of the boiler, 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 55ºC.

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

FUELS



gas/liquid

Condensing technology

Heating pump control

1/2

Control panel for one/two stage burner

AISI 316

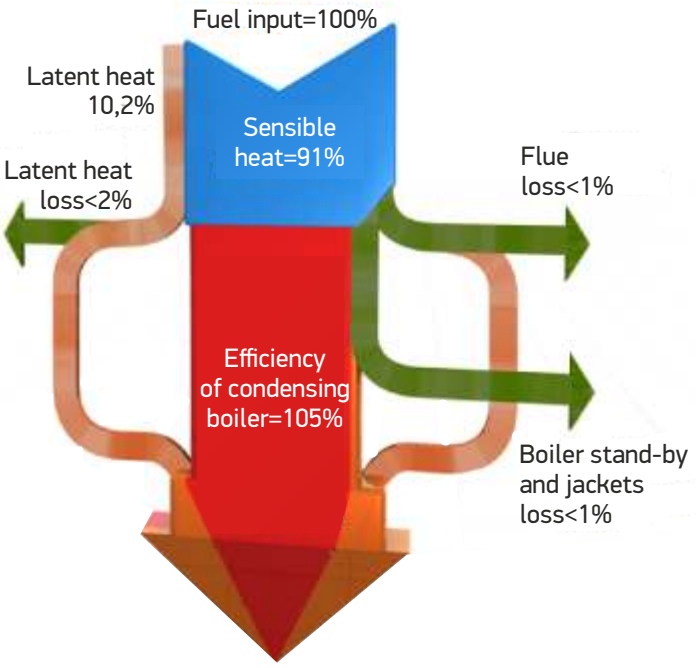
High quality stainless steel

Safety function

MAIN FEATURES

- Highly efficient solution with condensing technology
- Heat exchanger made of high-grade corrosion resistant stainless steel AISI 316L
- Self cleaning of the tubes thanks to inclined position in the heat exchanger
- Total efficiency up to 105%
- Condenisng technology with 3-pass heat exchanger
- Simple installation with one single outlet pipe and chimney
- Suitable for function with gaseous and liquid fuels
- Low emissions-eco friendly function
- Low fuel consumption

WORKING PRINCIPLE



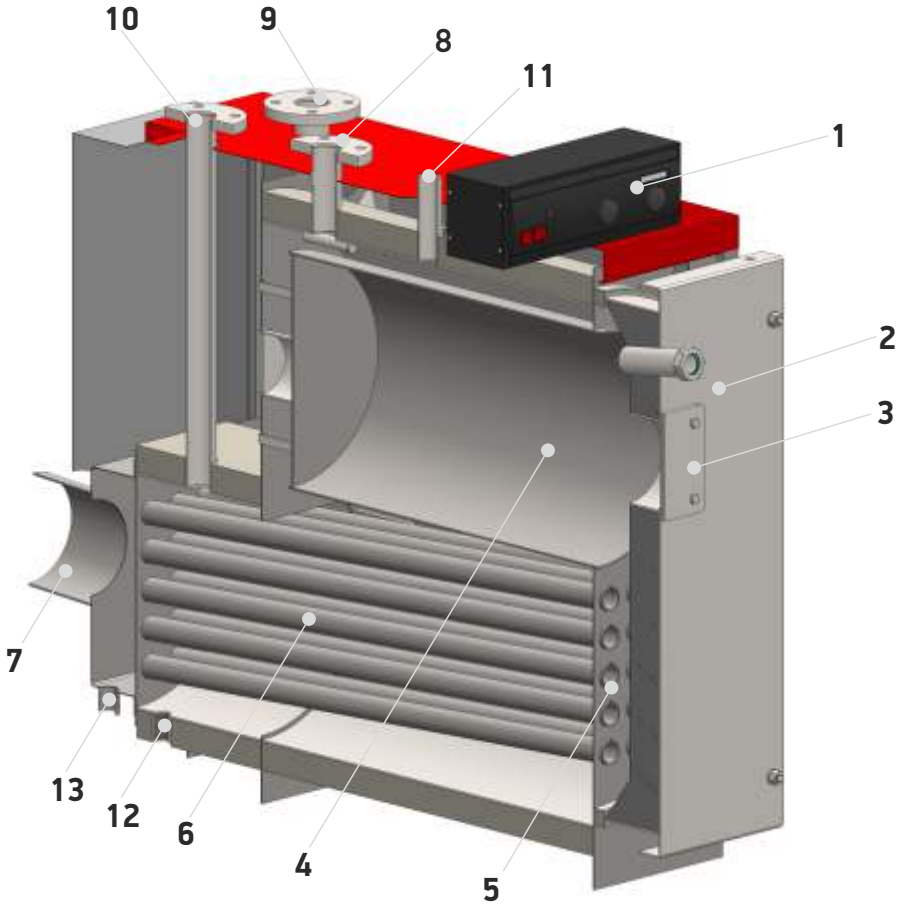
In a conventional boiler, the water is heated through the heat of combustion, and the resulting flue gases are guided to the chimney. As a result, the energy contained in the flue gas is lost.

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

In order to extract this energy, water vapor 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 boiler return. The 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.

BOILER CONSTRUCTION

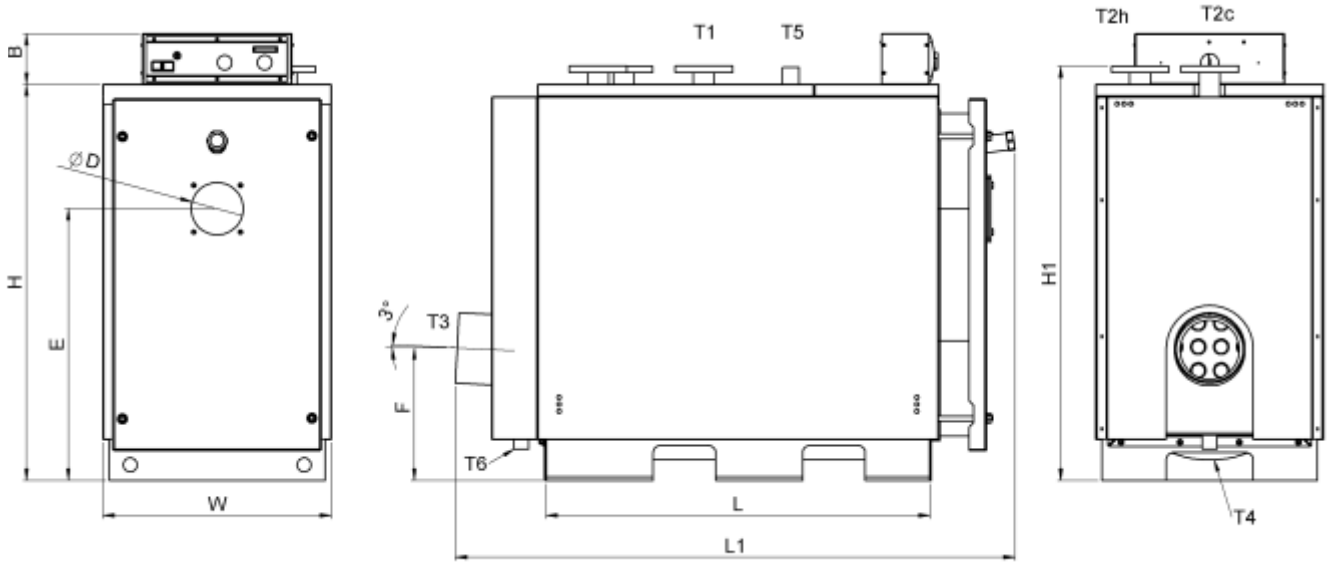


1. Control panel
2. Boiler door
3. Burner mounting flange
4. Fire chamber
5. Reverse chamber
6. INOX smoke tubes
7. Chimney outlet
8. Boiler outlet
9. High temperature return
10. Low temperature return
11. Safety connection
12. Boiler drainage
13. Condense drainage

TECHNICAL DATA

Type	Power temp. 50/30°C	Power temp. 80/60°C	Temp. max.	Pressure max.	Back pressure	Water pressure drop	Water contents	Efficiency temp. 50/30°C	Efficiency temp. 80/60°C	Weight
	kW	kW	°C	bar	mbar	mbar ΔT=15K	lit	%	%	kg
ENDS 125	125	113	90	6	1,0...2,0	15	200	105	95	405
ENDS 200	200	181	90	6	1,0...2,0	26	300	105	95	540
ENDS 300	300	271	90	6	2,0...3,0	32	390	105	95	740
ENDS 400	400	362	90	6	3,0...4,0	33	480	105	95	830
ENDS 500	500	452	90	6	3,0...4,0	35	650	105	95	1030
ENDS 600	600	543	90	6	3,0...4,0	38	710	105	95	1120

DIMENSIONS



Type	H	B	E	D	W	F	L1	T1-T2	T3	T4	T5	T6
	mm							inch	mm	inch		mm
ENDS 125	1140	145	780	150	660	380	1605	DN 50	202	1”	1 ½”	40
ENDS 200	1280	145	895	185	740	400	1840	DN 65	202	1”	DN 50	40
ENDS 300	1340	145	925	185	840	400	2060	DN 80	252	1”	DN 50	40
ENDS 400	1340	145	925	185	840	400	2360	DN 80	252	1”	DN 50	40
ENDS 500	1490	145	1000	220	990	400	2380	DN 100	302	1”	DN 50	40
ENDS 600	1490	145	1000	220	990	400	2580	DN 100	302	1”	DN 50	40

CONTROL PANELS

CONTROL PANEL EN-2S

The EN-2S control panel is an analogue controller for one or two-stage burner and boiler pump.

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

CONTROL PANEL THETA

The THETA heating controller can control single or two-stage heat generators for heating and hot water operation, optionally with up to three heating circuits.

Additional versions for multivalent operation (solar and solid fuel) as well as the use as cascade controller in multi-boiler systems are possible. The controller can be networked with a maximum of three other devices via a data bus.

Control panel functions:
- burner / heat source
- heating pump
- 1 or 2 mixer circuits (optional)
- domestic hot water
- external temperature control
- room thermostat / remote control connection (optional)
- two variable outputs for bivalent applications - solar, solid fuel boiler, buffer tank etc. (optional)
- communication of up to 4 controllers through data bus
- OpenTherm (optional)

RS-L room unit

- Remote control with integrated room sensor for recording the room temperature
- Identical operation to the THETA heating controller
- Activation of room-related parameters such as heating optimization, heating characteristic curve adaptation, room influence, room minimum and maximum temperature etc.
- Connection via 2-wire bus

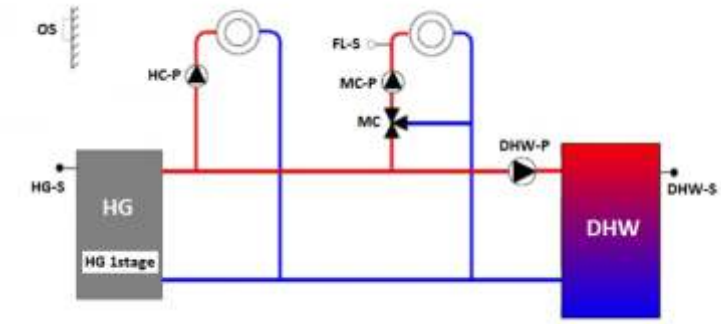
RFF room unit

RFF room sensor
- Remote control with integrated room sensor for recording the room temperature
- Switching the operating modes (heating - automatic - setback)
- Temperature adjustment
- Connection via 2-wire bus

Heatapp Internet module

Heatpp Internet Module
- **Operation via app (heatapp! app)**
- It can be connected directly to the THETA controller via the integrated system bus T2B
- Compatible with all THETA controllers from version 3.0 onwards

INSTALLATION SCHEME THETA 23B

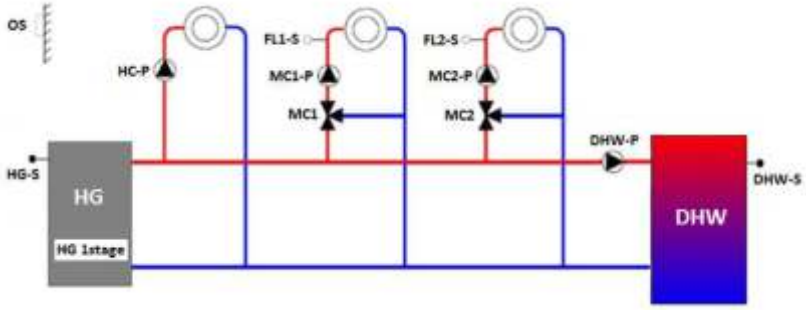


Control:
- 1 heat generator
- 1 direct heating circuit
- 1 mixer circuit (3-point PI controller)
- 1 hot water

Devices:

HG-S	- Boiler sensor
DSHW-S	- HUW sensor
OS	- External temperature sensor
FL-S	- Mixer circuit sensor
HC-P	- Heating pump
MC-P	- Mixer pump
MC	- Mixer
DHW-P	- HUW pump

INSTALLATION SCHEME THETA 233B

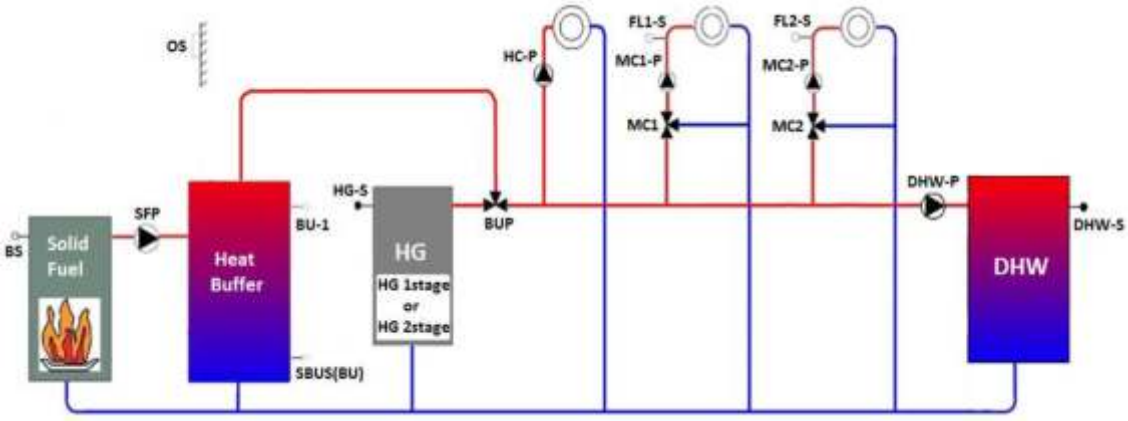


Control:
- 1 heat generator
- 1 direct heating circuit
- 2 mixer circuit (3-point PI controller)
- 1 hot water

Devices:

HG-S	- Boiler sensor
DSHW-S	- HUW sensor
OS	- External temperature sensor
FL-S	- Mixer circuit sensor
HC-P	- Heating pump
MC-P	- Mixer pump
MC	- Mixer
DHW-P	- HUW pump

INSTALLATION SCHEME THETA 2233BVV



Control:
- 2 heat generators
- 1 direct heating circuit
- 2 mixer circuit (3-point PI controller)
- 1 hot water

Devices:

HG-S	- Boiler sensor
BS	- Alternative heat source sensor
BU	- Buffer sensor
DSHW-S	- HUW sensor
OS	- External temperature sensor
FL-S	- Mixer circuit sensor
HC-P	- Heating pump
MC-P	- Mixer pump
MC	- Mixer
DHW-P	- HUW pump

Solar Systems

Solar systems for hot water production

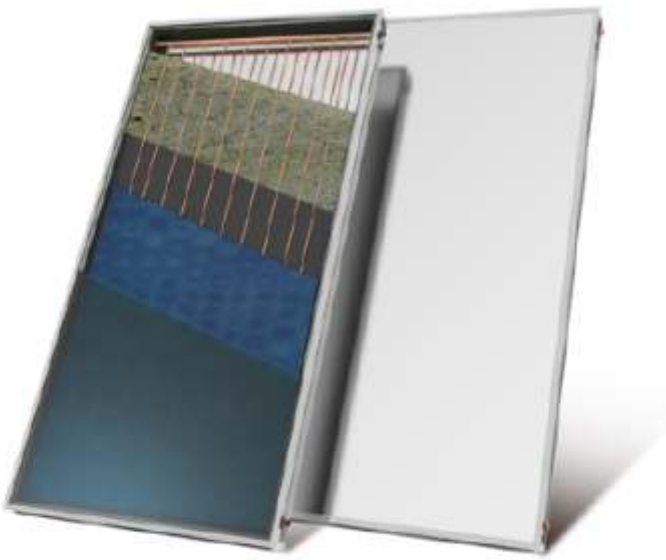
FLAT SOLAR PANELS • SOLAR SYSTEMS

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 α=95% (±2%) - reflection factor ε=5% (±2%)
- Strong thermal insulation of compressed rockwool 50 mm thickness, ñ=0,032 W/m²K
- High quality tempered glass for maximum solar captivity and strength
- Sealing with EPDM rubber with UV protectioncu silicon tip EPDM rezistent la temperatră înaltă

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	m²	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	ºC	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

ENERSOLAR

natural circulation solar system

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

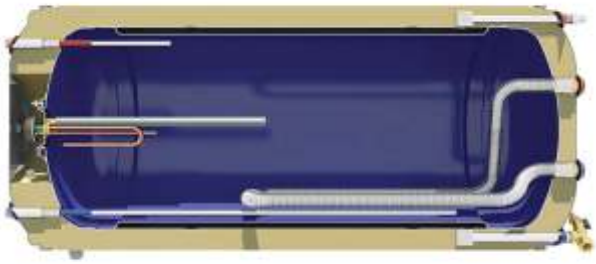
The solar collectors have selective surface for maximum absorbance and are covered with high strength tempered glass.

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.

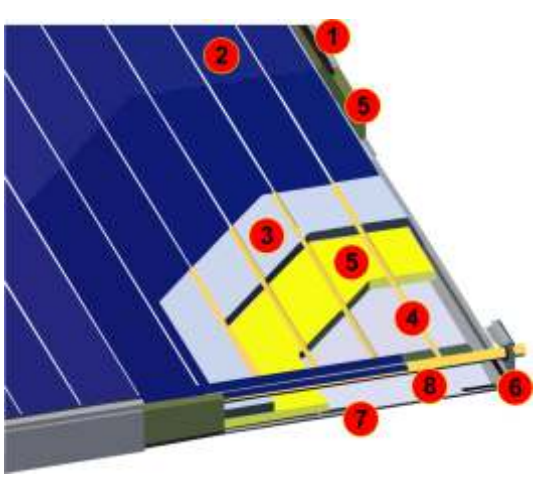
The system comes together with metal support for easy installation on flat or inclined roof.

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
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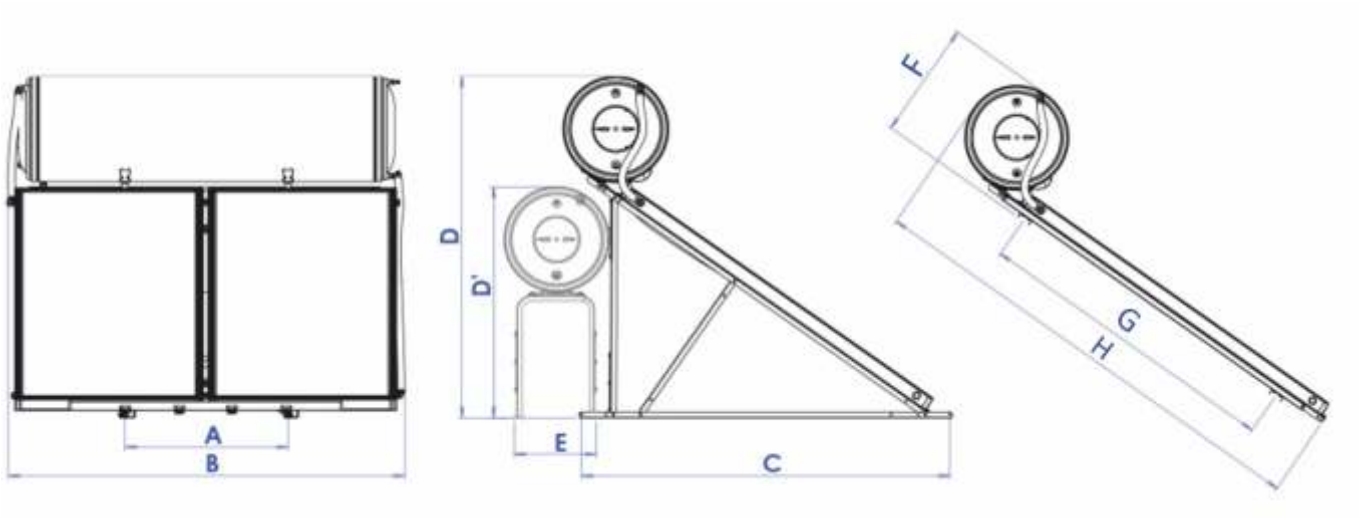
- Strong thermal insulation of compressed rockwool 50 mm thickness, ∂=0,032 W/m²K
- High quality tempered glass for maximum solar captivity and strength
- Sealing with EPDM rubber with UV protection

TECHNICAL DATA

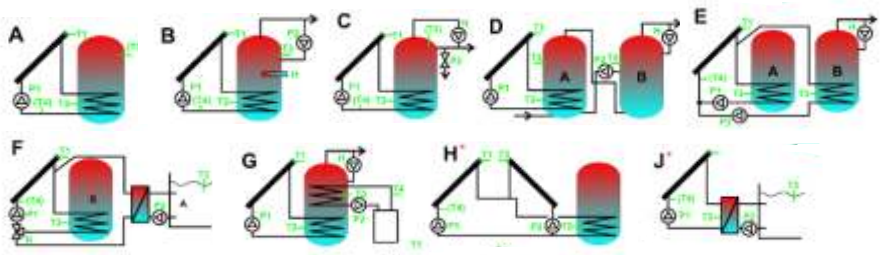


Type			SLE 120/2	SLE 160/2.6	SLE 160/3	SLE 200/3	SLE 200/4
Water tank volume		lit	120	160	160	200	200
Nr. of solar collectors			1	1	2	2	2
Collector dimensions		m	1,00x2,00	1,28x2,00	1,00x1,50	1,00x1,50	1,00x2,00
Absorbing surface		m^2	2,0	2,6	3,0	3,0	4,0
Indicative nr. of users			1-2	2-3	2-4	3-5	3-5
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	90
	B	mm	112	140	219	219	219
	C	mm	203	203	153	153	203
	D	mm	189	189	160	160	189
	E	mm	45	45	45	45	45
	D'	mm	128	128	128	128	128
	F	mm	65	65	65	65	65
	G	mm	172	172	131	131	172
	H	mm	261	261	211	211	261

CONTROLLER ecoSOL 301

The electronic controller is modern and user-friendly, and offers a wide variety of modes and settings for a solar system. It is very easy to install, offer ergonomic design, functionality and energy savings.

- Advanced algorithms for precise control and efficient function
- Various function modes
- Supports up to 4 temperature sensors
- Smooth pump function
- Anti-freeze function
- Time programming
- Autodiagnose of errors



PUMP GROUP GPP 301S1

Pump station includes:
- Electronic pump
- Solar safety valve with filling/drainage valve and manometer
- Separation ball valve with thermometer and one-way valve
- Flow meter
- Insulation cover

Technical characteristics:
Max working temperature: 120°C
Max working pressure: 6 bar
Connections: ¾”

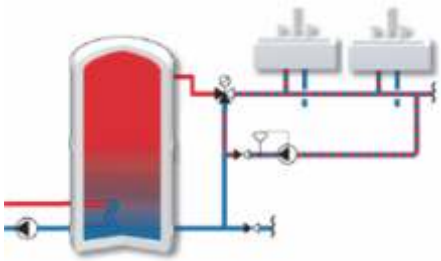
THERMOSTATIC CONTROL

VTA

The thermostatic 3-way valve VTA ensures safe function of the system, so that the hot water temperature provided to the user will not be more than 45°C.

The VMC solar kit is the most easy and efficient solution to combine two energy sources for hot water production: boiler and solar collectors. It consists of a deviation valve, which will guide water to the boiler if necessary, and a thermostatic mixing valve which will ensure steady temperature within the safety limits to the user.

VMC



VTA function scheme

VMC function scheme

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. We offer a veriety of fuels according to the needs of each application.

The solution can be personilized 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.

INDUSTRIAL

industrial biomass boilers 500-1.500 kW

INDUSTRIAL boiler range is a fully automatic pellet-biomass-woodchips boiler for industrial applications (500-1.500 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.

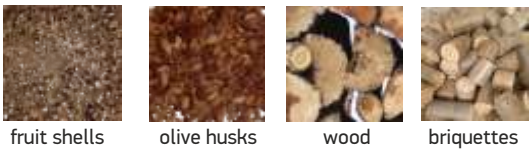
The fuel feeding is performed by a big diameter robust feeder, with inverter control. The combustion air is electronically regulated independently for primary and secondary air.

The operation of all the devices is controlled by and 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 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
- External feeder with 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 (optional)
- Pneumatic cleaning of the tubes (optional)

BOILER CONSTRUCTION

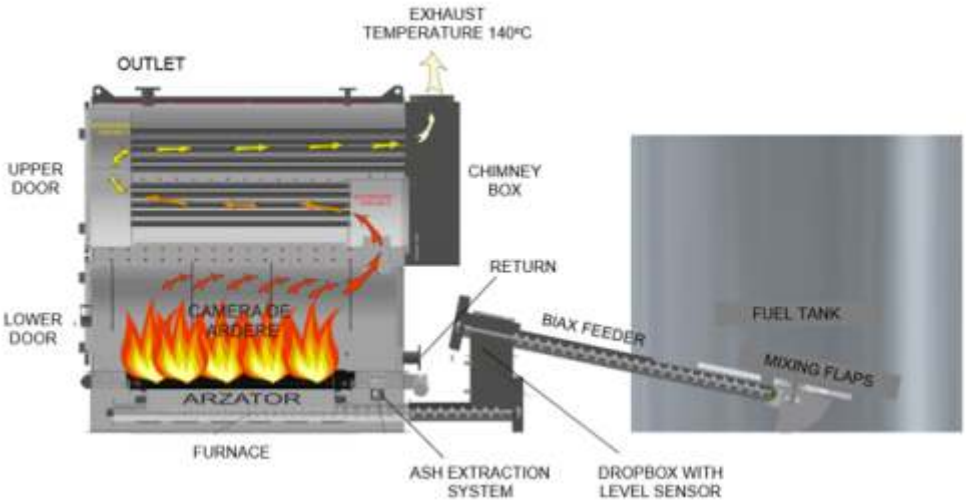
The boiler is designed for automatic function on any kind of biomass fuel: pellet, agropellet, agricultural origin biomass (fruit husks, olive kernels), woodchips, sawdust, remains of wood processing.

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.

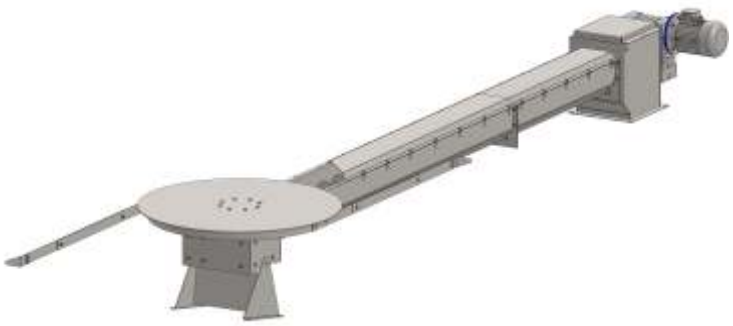
The complete boiler function is automatic. The fuel is automatically loaded from the silo by means of a mixing mechanism, and then guided by two parallel screw feeders in order to transport fuel up to 70mm diameter, until the drop zone, where they drop to a second feeder. This construction protects against 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).

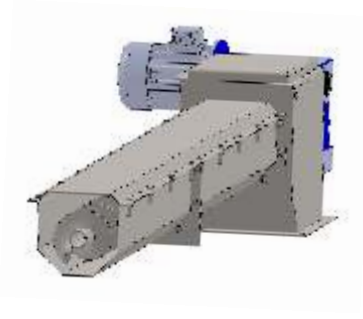
The feeding system is bi-ax, with two levels which are controlled by individual motors. Between the two levels there is fuel level sensor, which protects against overloading and automatically recognizes lack of fuel.

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).

Mixing mechanism



Special shape feeder channel

BOILER CONTROLLER

The boiler is equipped with an advanced digital controller for extended control over the boiler and the heating installation, with a 7" colour touch screen interface.

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 comand 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
- Feeder
- Exhaust fan
- Heating pump
- Hot water pump
- Weather control
- Buffer control
- Ash extractor
- Fuel level recognition
- Summer/Winter mode
- Igniter
- Fumes sensor
- Room thermostat
- Alarm signals
- Overheating protection

OPTIONAL ACCESSORIES

Automatic ash extraction

Ash channel with mechanical screw conveyor for automatic ash extraction from the furnace. The conveyor is controlled by an individual moto-reducer by means of time intervals. The ash is accummulated in a big capacity ash box.

Ash multicyclone

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

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.

Lambda sensor

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

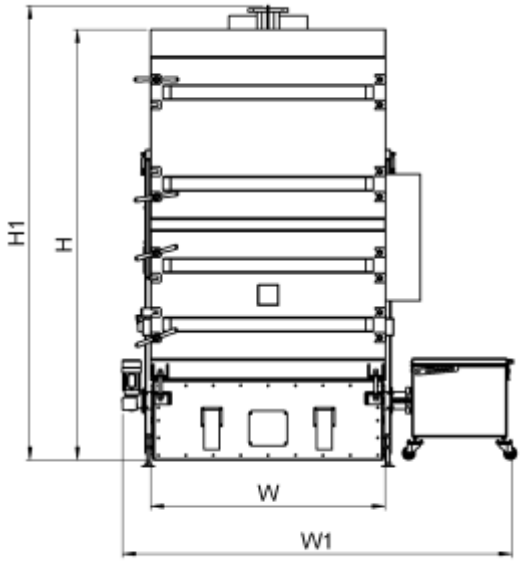
Water pressure sensor

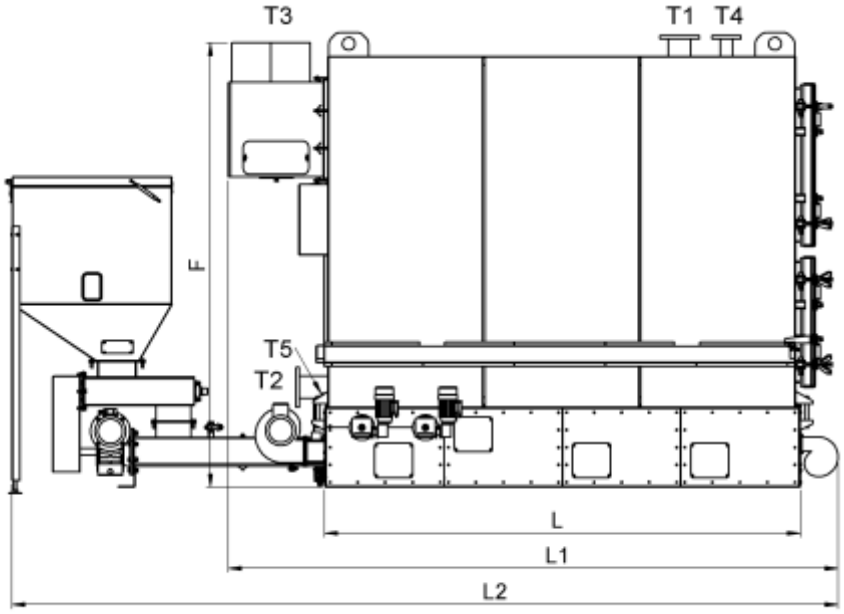
A water pressure sensor can be installed on the safety kit. It monitors the boiler pressure and signals an alarm if the pressure is outside the set limits.

Fuel level sensor

A fuel level sensor can be installed on the silo and control an external feeder to automatically maintain the fuel in the silo.

TECHNICAL DATA





T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Safety connection
T5 - Drainage

Type	Nominal power	Max. temp.	Max. pressure	Exhaust gas debit	Efficiency	Water contents	Electric supply	Weight
	kW	°C	bar	m³/h	%	lit	V/Hz	kg
IND 500	500	90	3	1.152	90	3.080	400/50	4.560
IND 750	750	90	3	1.420	90	3.420	400/50	5.800
IND 1000	1.000	90	3	1.740	90	3.740	400/50	6.500
IND 1250	1.250	90	3	1.982	90	4.080	400/50	7.000
IND 1500	1.500	90	3	2.340	90	4.480	400/50	7.450

Type	H	H1	W	W1	F	L/L1/L2	T1-T2	T3	T4	T5
				mm			mm	mm	mm	inch
IND 500	2715	2870	1485	2460	2800	2500/3220/4715	DN 100	Ø450	DN 65	1½"
IND 750	2715	2870	1485	2460	2800	2750/3470/4965	DN 125	Ø500	DN 65	1½"
IND 1000	2715	2870	1485	2460	2800	3000/3720/5215	DN 125	Ø500	DN 65	1½"
IND 1250	2815	2970	1685	2560	2925	3000/3780/5275	DN 150	Ø550	DN 100	1½"
IND 1500	2815	2970	1685	2560	2925	3300/4080/5575	DN 150	Ø550	DN 100	1½"

PSH

hot air generator for pellet fuel 35-250 kW

Thermostahl PSH 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 function on wood pellet, by means of a pellet burner installed at the front door.

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

Automatic ignition and flame supervision

Automatic cleaning by compressed air

Low noise operation

Safety thermostat

FUELS

pellet

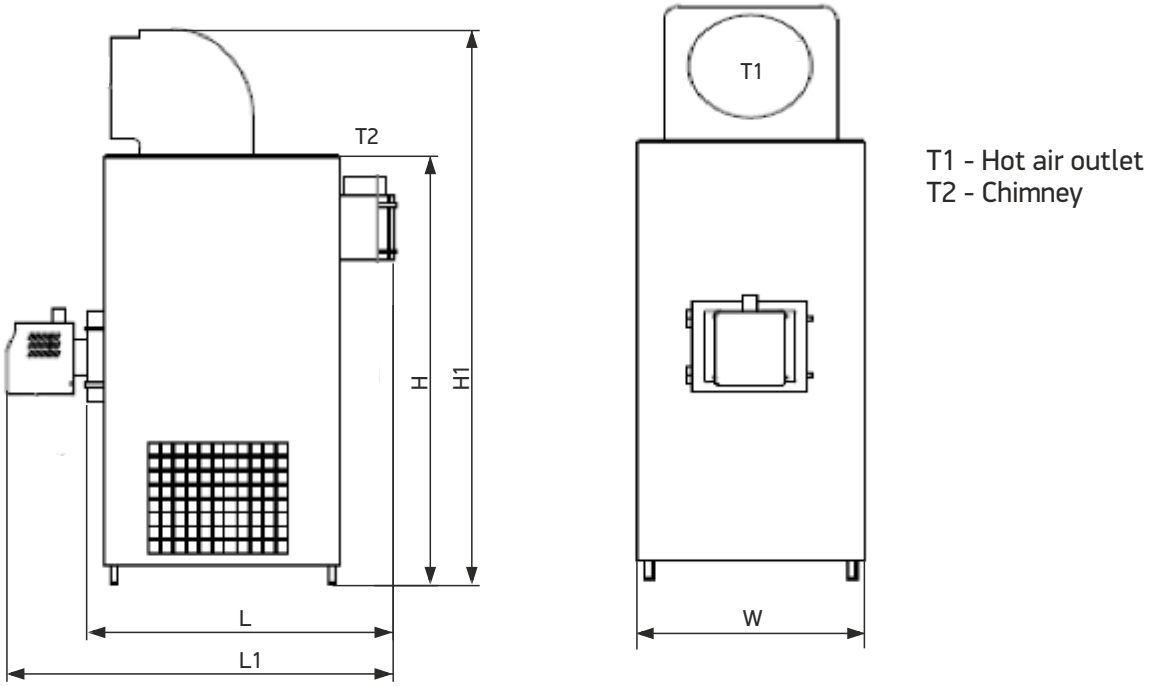
MAIN FEATURES

- 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
	kW	°C	m³/h	Pa	K	dB	kW	V/Hz	kg
PSH 35	35	120	2.980	200	40	81,5	0,25	230/50	170
PSH 60	60	120	4.500	200	45	85,0	0,38	230/50	240
PSH 80	80	120	5.500	200	42	88,5	0,55	230/50	240
PSH 120	120	120	7.900	300	40	90,0	1,10	400/50	380
PSH 150	150	120	11.900	300	38	90,0	2,20	400/50	480
PSH 180	180	120	11.900	300	42	100,0	2,20	400/50	550
PSH 250	250	120	15.500	300	40	100,0	3,00	400/50	650

DIMENSIONS



T1 - Hot air outlet
T2 - Chimney

Type	L	L1	H	H1	W	T1	T2
	mm						
PSH 35	920	1320	1450	1800	540	300	125
PSH 60	1100	1550	1730	2180	650	400	150
PSH 80	1100	1550	1730	2180	650	400	150
PSH 120	1450	2100	2000	2600	825	550	200
PSH 150	1450	2100	2000	2600	825	550	200
PSH 180	1700	2350	2300	2950	900	600	250
PSH 250	1700	2350	2300	2950	900	600	250

AR

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

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

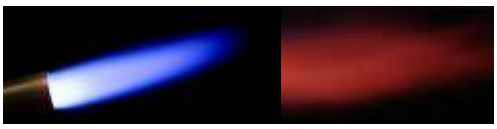
The hot air generator has a special 3-pass design, with robust, welded construction of the air chamber. This unique construction offers a constant debit of hot air with maximum efficiency, assuring fast heating and energy savings. All surfaces which come in contact with fire are made for special refractory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

FUELS



gas/liquid

AISI 304 **Refractory steel heat exchanger**

High static pressure

Low noise operation

Safety thermostat

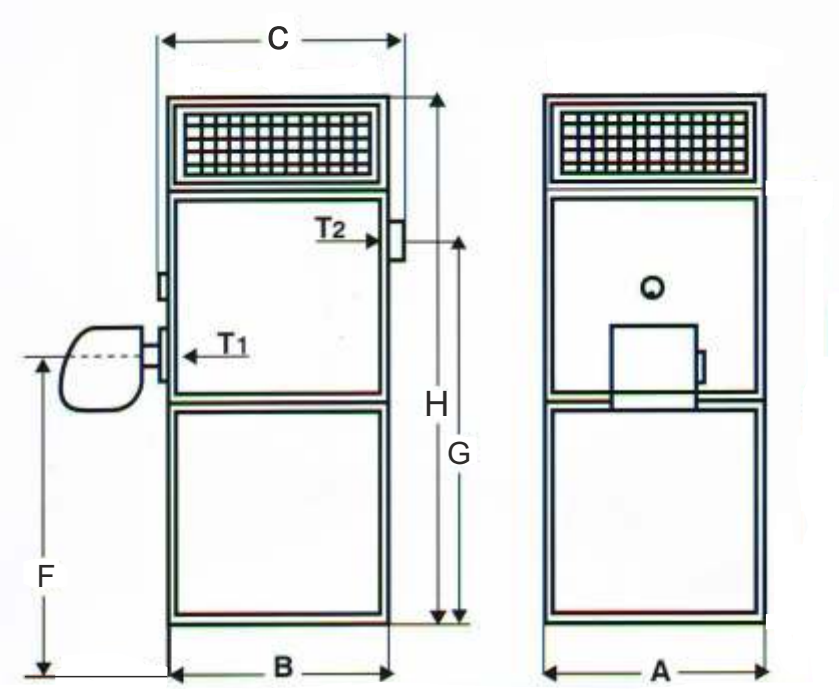
MAIN FEATURES

- 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	ºC	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

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, THERMOSTAHL 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 THERMOSTAHL 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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