

Heating and Energy Saving Systems

pellet • biomass • wood
solar energy • gas • oil

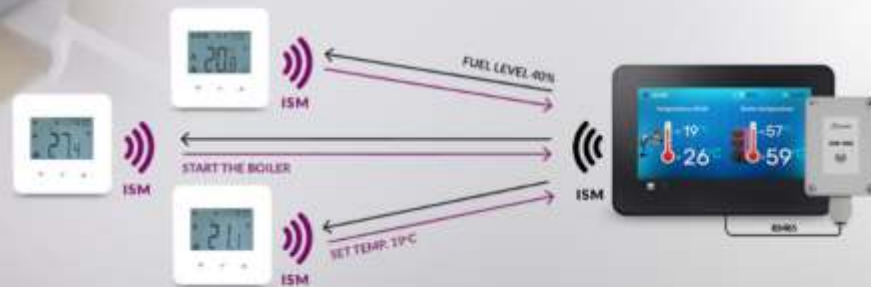
GENERAL CATALOGUE
2025-2026




thermostahl

ecoSTER_x40

Two-way ISM radio system



ecoNET + Mobile application

remote monitoring system



ecoSTER x40 / x80

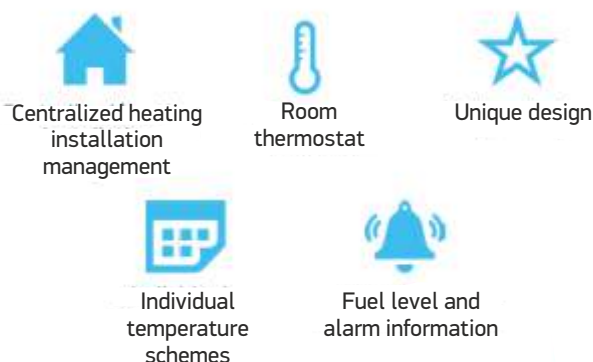
WIRELESS REMOTE CONTROL STRAIGHT FROM YOUR LIVING ROOM

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.



ecoNET

A NEW DIMENSION OF COMFORT

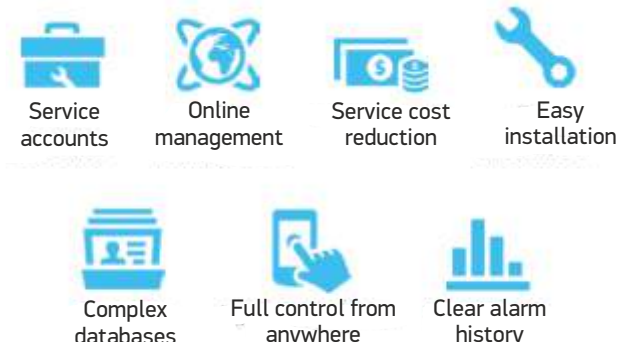
The ecoNET internet module ensures remote access to the boiler with a PC, tablet or smartphone.

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



Contents

BIOMASS

ECOBIO.....	13
PROFI PELLETT.....	17
PROFI BIO.....	21
OPTIONAL ACCESSORIES.....	24
STORAGE AND FEEDING SYSTEMS.....	25

PELLET

COMPACT.....	27
MPB.....	30
ECOTWIN.....	33
PLC.....	37
PLC MINI.....	40
PROFI DUO.....	43
STORAGE SYSTEMS.....	46

SOLID FUEL

ECOWOOD STANDARD.....	48
ECOWOOD PLUS.....	50
PROFI WOOD.....	53
OPTIONAL ACCESSORIES.....	56

OIL & GAS

ENP.....	58
ENERDENSE.....	62
CONTROL PANEL.....	65

SOLAR SYSTEMS

CS.....	68
PS.....	69
EVO.....	71
ENERSOLAR.....	72
SOLAR SYSTEM.....	74

HEAT PUMPS

MASTER.....	77
-------------	----

INDUSTRIAL APPLICATIONS

INDUSTRIAL.....	84
PSH.....	88
W.....	90
AR.....	92

Company profile

THERMOSTAHL operates a modern manufacturing facility spread across 3.000 square meters. This facility is complemented by a 1.200 square meter warehouse and 500 square meters of administration offices and showroom space. With the capacity to produce more than 3.000 boilers annually, ranging from 25 to 4.000 kW, THERMOSTAHL is equipped to meet the demands of both local and international markets.

The facility is certified with ISO 9001, issued by TUV Thuringer, and all products have CE and ECODESIGN certifications, ensuring that they meet stringent quality and environmental standards. THERMOSTAHL is also committed to sustainability, recycling more than 85% of its waste materials, including cardboard, paper, scrap metal, and plastic. Additionally, the company uses 100% recycled materials for its packaging, further reducing its environmental footprint.

It offers a wide range of products for residential or industrial applications on solid, gaseous and liquid 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.



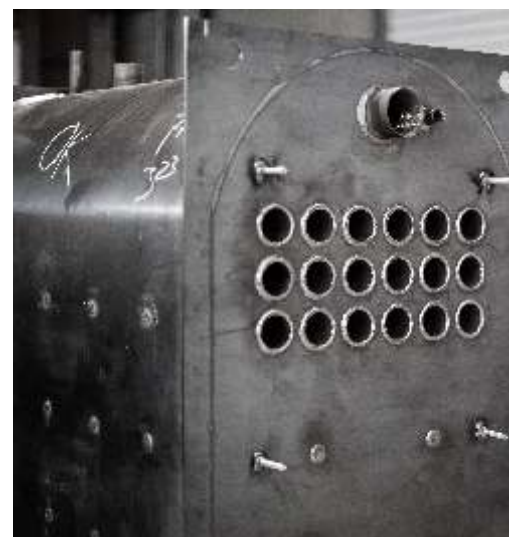
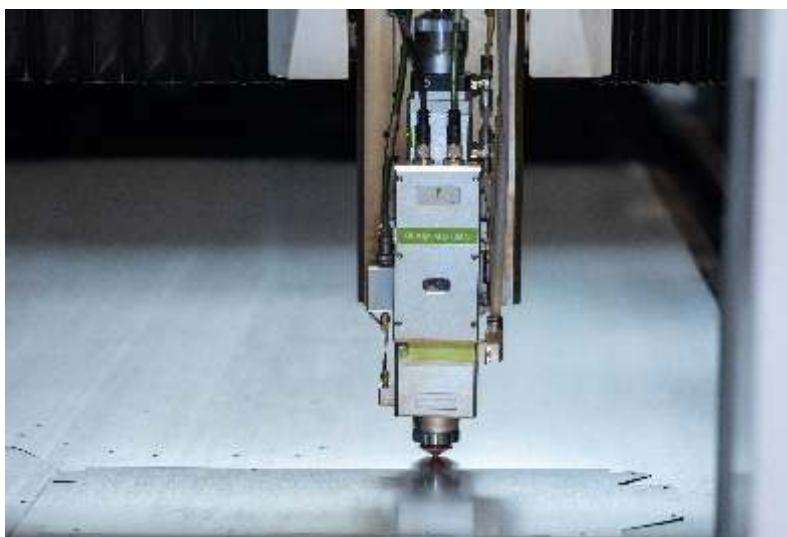
Our Values

Our values guide us in every decision and action, ensuring that every step we take reflects integrity, responsibility and passion for what we do.

✓ **Innovation:** Innovation is the key to turning challenges into opportunities and anticipating the changing needs of our customers. We believe in the power of technological progress and creative ideas to constantly improve our products and processes.

✓ **Dedication:** For us, dedication means total dedication to our customers, to the quality of our products and to the mission of contributing to a sustainable future.





✓ **Integrity:** We believe in transparency, honesty and responsibility, ensuring that every decision and action reflects the highest moral standards. Through integrity, we earn the trust of those around us and strengthen the reputation of a brand that people can truly rely on.

✓ **Sustainability:** Sustainability is not just a value, but a promise that every action and product we make contributes to building a green, safe and sustainable future for future generations.

✓ **Quality:** For us, quality does not only mean durability and efficiency, but also attention to detail and respect for the promise we make to our customers. Thus, quality becomes a standard by which we guarantee the comfort and safety of every home equipped with THERMOSTAHL products.

✓ **Responsibility:** Responsibility is our commitment to act with care and respect for customers, the community and the environment. We take responsibility for every product we create and for the impact we have, integrating ethical and sustainable practices into every aspect of our business.



Quality

At the core of our success lies our **commitment to quality**, a fundamental principle that guides every stage of our processes, from concept to the final product. Through an innovative approach and meticulous attention to detail, we ensure that every project and product reflects the highest standards of excellence.

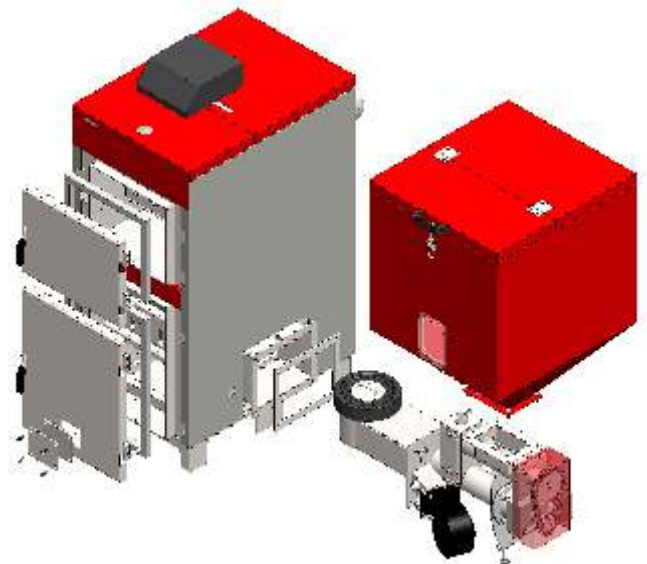
Quality is not just a standard; it is a promise we uphold with the utmost care. By combining advanced technologies, innovation, and a commitment to sustainability, we are dedicated to delivering products that meet and exceed our clients' expectations. For us, quality is more than just a result – it is the philosophy that defines us.



Design

To ensure that every product meets our clients' strict requirements, we employ the most advanced **3D design technologies**. This process allows us to simulate, test, and optimize every detail before production, reducing risks and enhancing performance. Using 3D modeling technology, we transform ideas into reality with remarkable efficiency.

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



Innovation

We pride ourselves on a corporate culture rooted in continuous innovation. Our team consistently invests in research and development to identify new, efficient solutions tailored to the evolving needs of the market. From cutting-edge production technologies to revolutionary designs, we aim to always stay one step ahead.



Certification

Our quality is validated not only by our results but also by the **international certifications** we hold. These certifications confirm compliance with the most rigorous industry standards and demonstrate our dedication to excellence. Among our certifications are those focusing on safety, sustainability, and product performance.

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**.

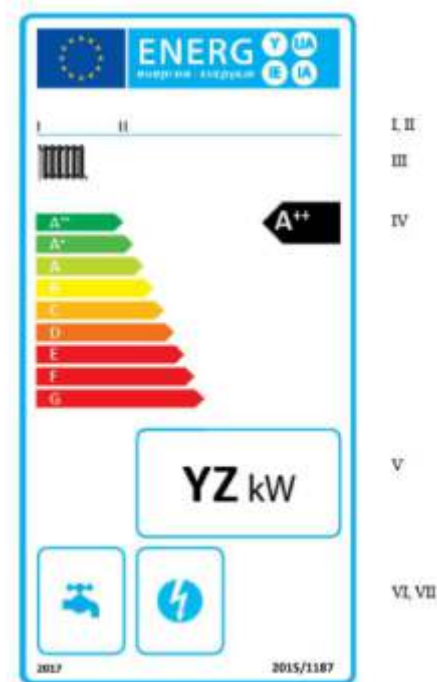
What does ECODESIGN mean for solid fuel boilers?

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 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

THERMOSTAHL products are exported to more than 12 countries, through a selected network of distributors. Scan the QR code and find your local distributor.

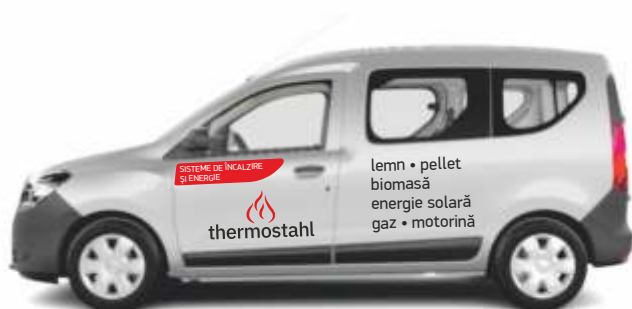


Service

WARRANTY

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

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



We invest in after sales responsibility of our products.

Our service department is a team of highly skilled technicians, are always ready to provide with technical support and assure a perfect function of the THERMOSTAHL products.



Service Call Center

+40 372 722 796



E-mail

suport@thermostahl.ro



PUT INTO FUNCTION

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



SERVICE CENTER

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



SERVICE PARTNERS NETWORK

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



SPARE PARTS

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

Biomass

What is biomass?

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

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

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

Fuel type	Calorific value kWh/kg	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?

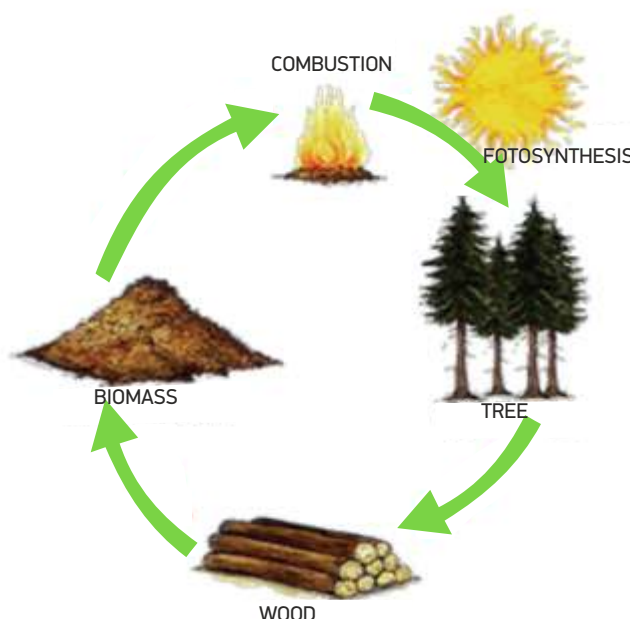
- > It is a renewable fuel
- > It can be fed and burnt in an automatic way
- > It is natural, with no chemical or additives
- > It is environmental friendly
- > It is economical



What means CO₂ neutral?

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

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



Pellet

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

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

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

PELLET technical data

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

Wood

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

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

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

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

Wood specification

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

biomass
energy
life





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



Full power modulation



Fumes sensor modulation
Flame detection



Multifuel function



3 years product warranty



Safety devices and alarm signals



Advanced remote control

FUELS



pellet



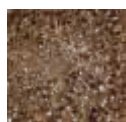
carbon



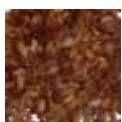
agropellets



cereals



fruit shells



olive husks



wood

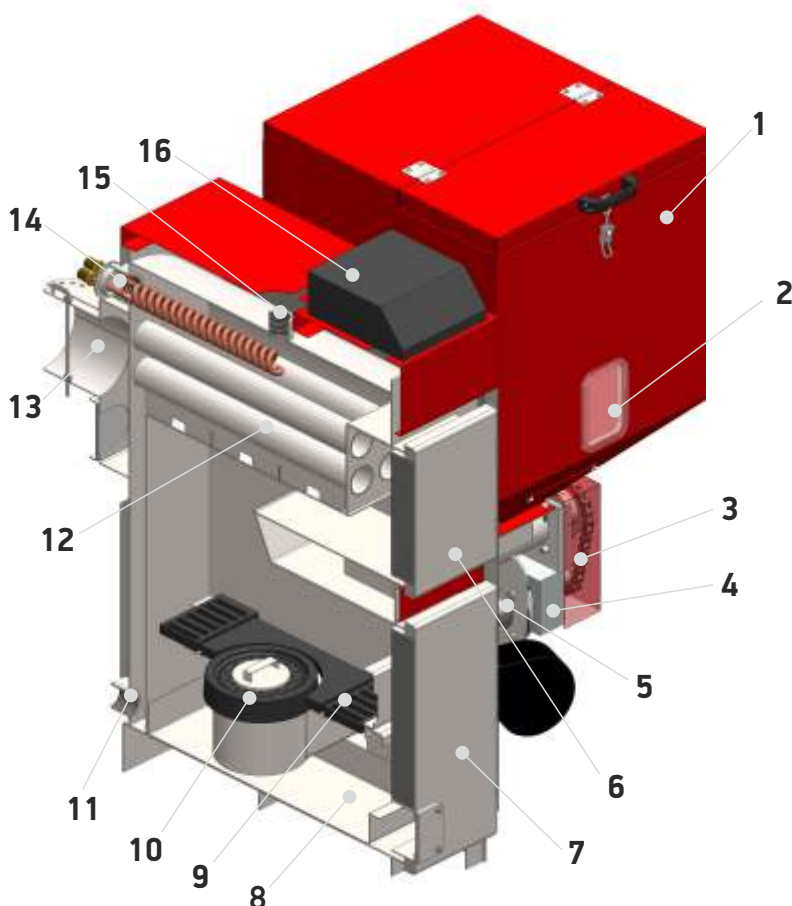


briquettes

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

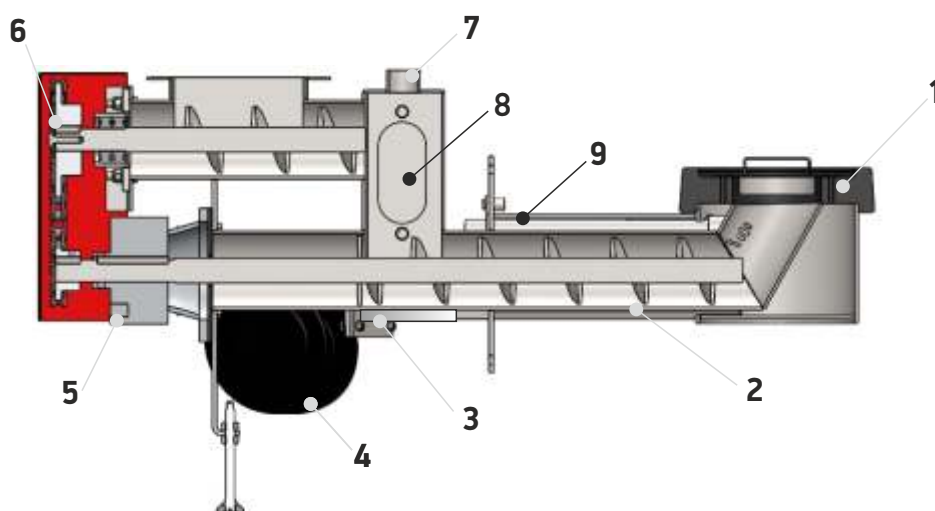
FURNACE SYSTEM

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

BOILER CONTROLLER



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

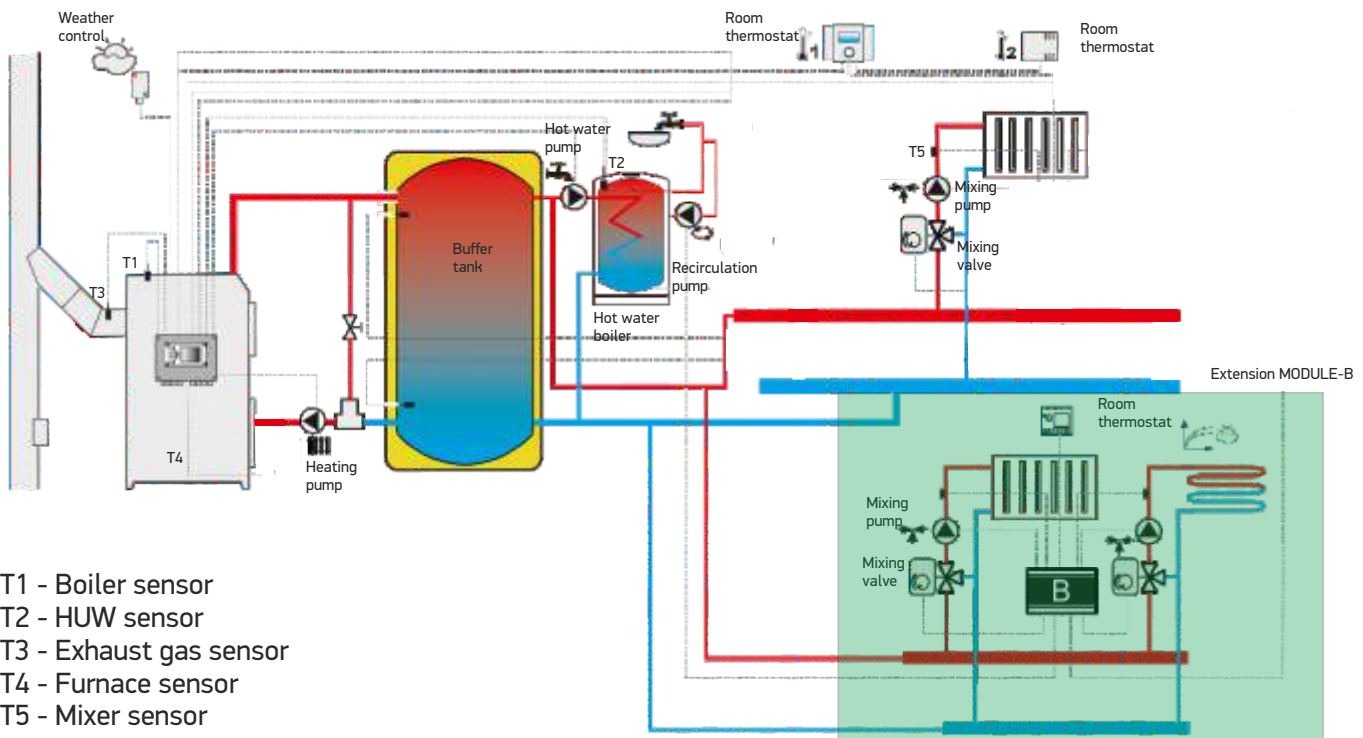
The boiler enables smooth modulation of furnace operation, information about current fuel level, adaptive mixing control, integration with room remote control devices.

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

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

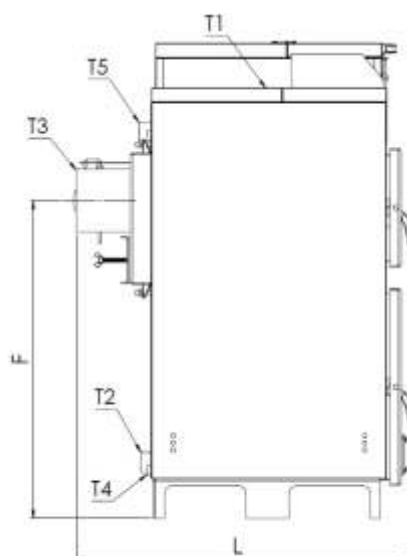
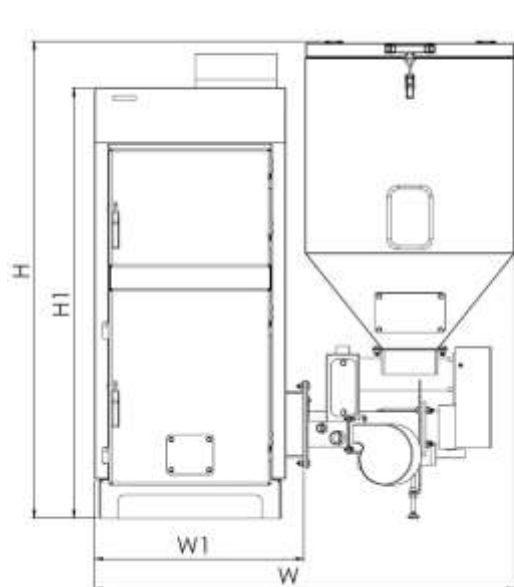
	Fan		Weather control		Igniter
	Feeder		Buffer control		Fumes sensor
	Heating pump		Boiler switch		Room thermostat
	HUW pump		Fuel level recognition		Alarm signals
	By-pass pump		Summer/winter mode		Overheating protection

INSTALLATION SCHEME



Extension MODULE-B is not standard boiler equipment.

TECHNICAL DATA

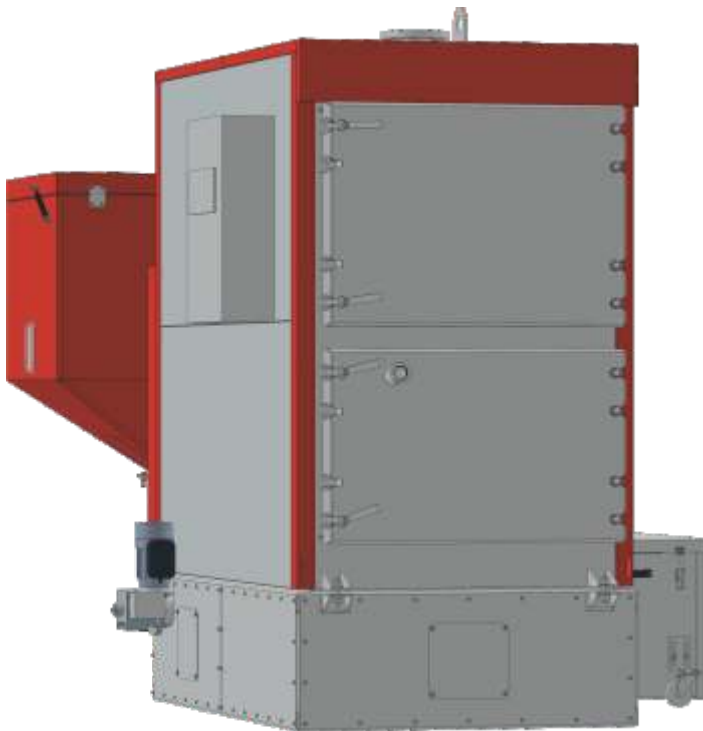


- T1 - Outlet
- T2 - Return
- T3 - Chimney
- T4 - Drainage
- T5 - Safety heat exchanger

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	°C	90	90	90	90	90	90	90
Max pressure	bar	3	3	3	3	3	3	3
Silo volume	lit	300	300	300	300	300	500	500
Water contents	lit	100	120	130	170	190	370	440
Weight	kg	322	348	376	439	475	785	870
Electric supply	V/Hz	230/50	230/50	230/50	230/50	230/50	230/50	230/50
Dimensions	H1	mm	1195	1195	1195	1310	1310	1650
	H	mm	1325	1325	1325	1410	1410	1750
	W1	mm	580	580	580	730	730	810
	W	mm	1165	1165	1165	1300	1300	1395
	F	mm	880	880	880	1000	1000	1195
	L	mm	935	1035	1135	1035	1135	1585
	T1-T2	inch	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200
	T4	mm	¾"	¾"	¾"	¾"	¾"	¾"
	T5	mm	2"	2"	2"	2"	2 ½"	2 ½"

PROFI PELLET

multifuel 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 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



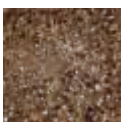
carbon



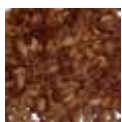
agropellets



cereals



fruit shells



olive husks



wood



briquettes



Full power modulation



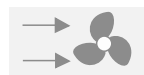
Exhaust gas sensor
Flame detection



Advanced digital controller



Ash extraction

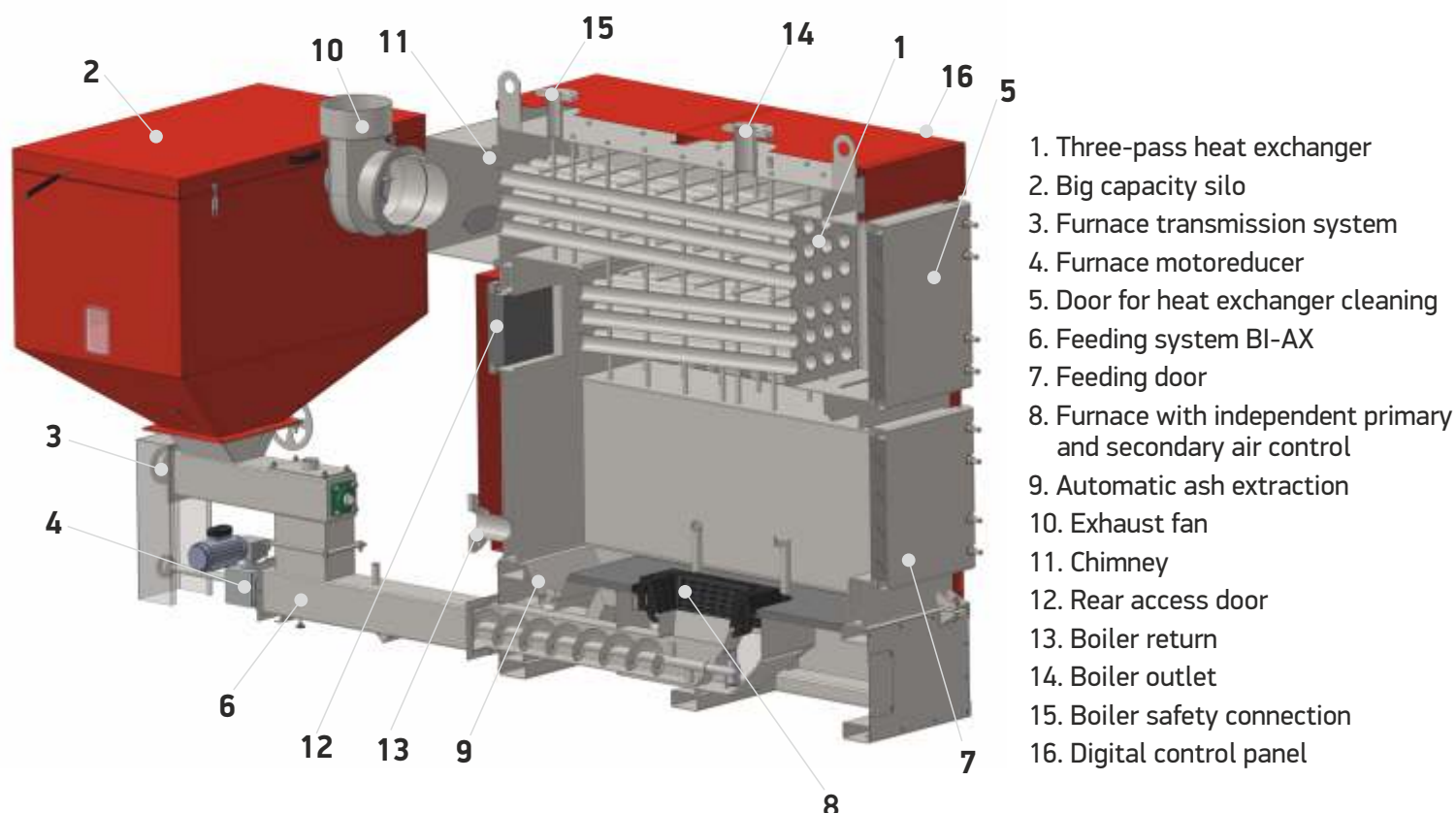


Exhaust fan control

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



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 command to an auxiliary boiler. A room thermostat can be also connected to the controller.

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



Fan



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

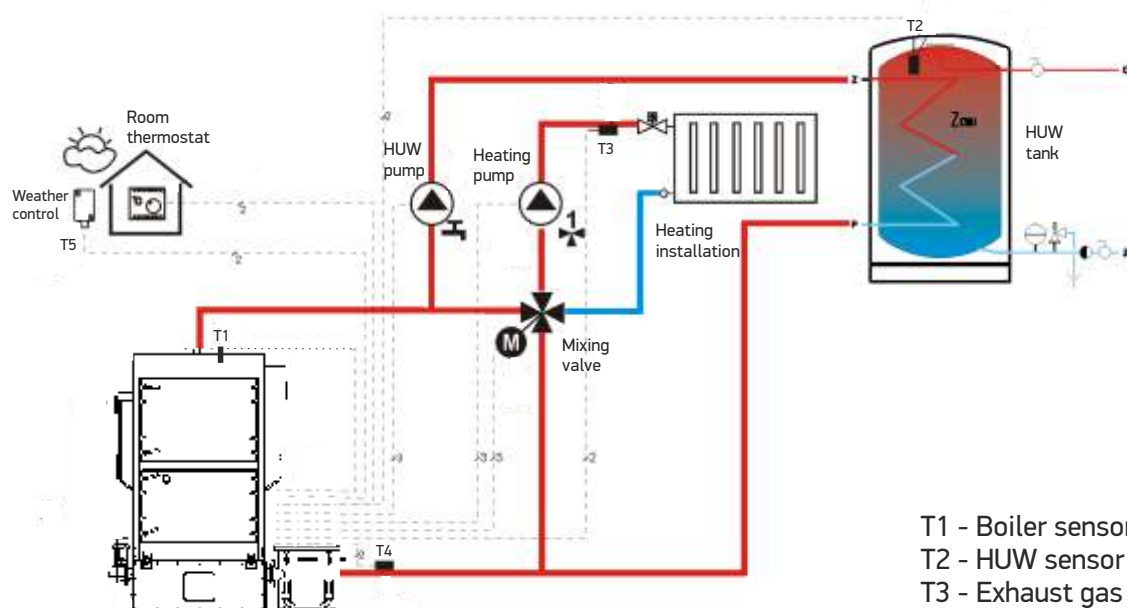


Alarm signals



Overheating protection

INSTALLATION SCHEME

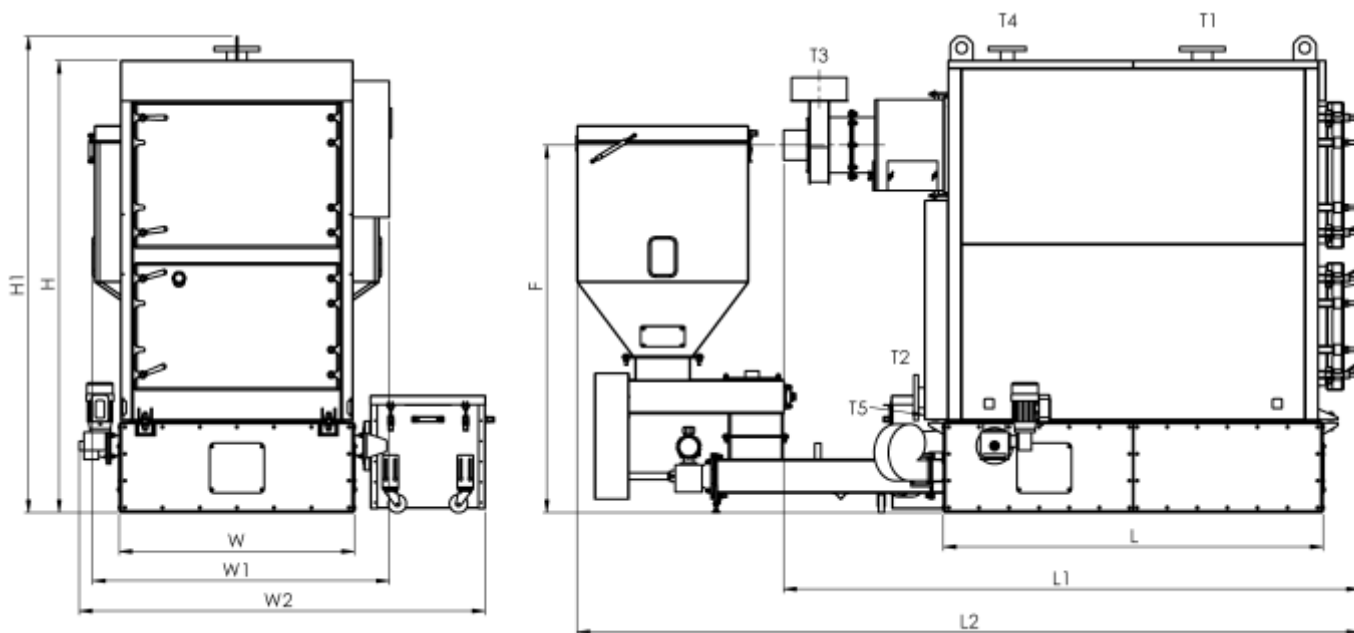


T1 - Boiler sensor
 T2 - HUW sensor
 T3 - Exhaust gas sensor
 T4 - Furnace sensor
 T5 - External temperature sensor

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 accumulated in a big capacity ash box.



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.



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.



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.



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.

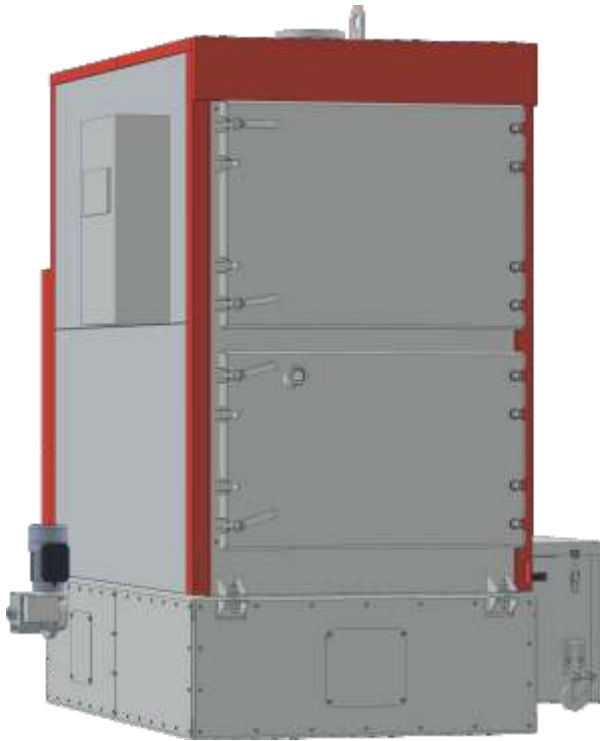


Fuel level sensor

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



Rotating feeding system



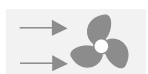
Independent external feeder



Advanced digital controller



Ash extraction

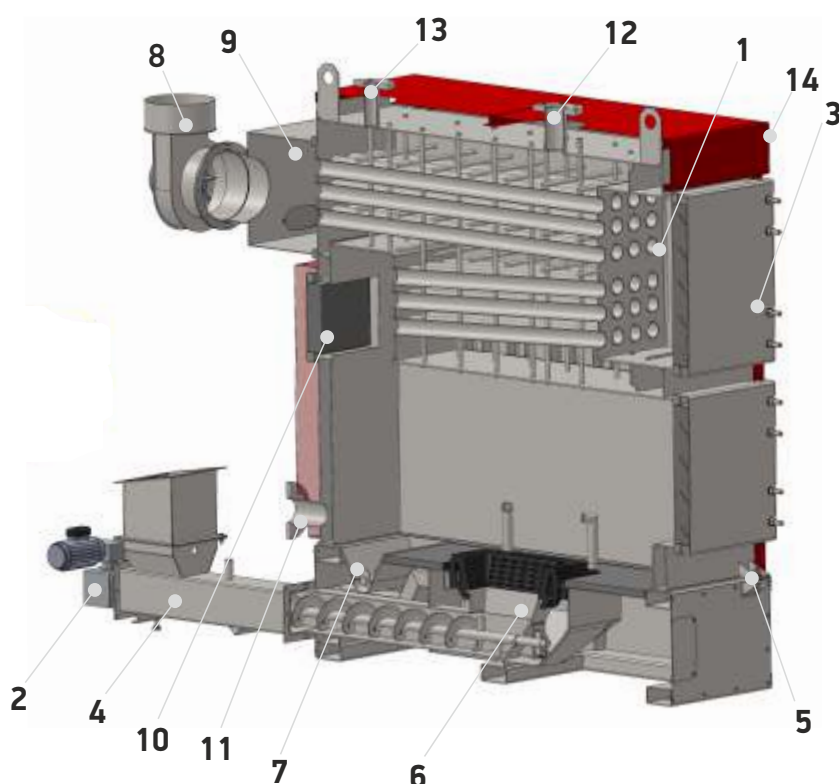


Exhaust fan control

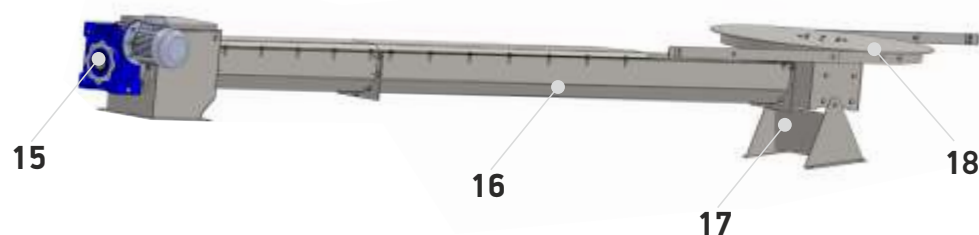
MAIN FEATURES

- 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



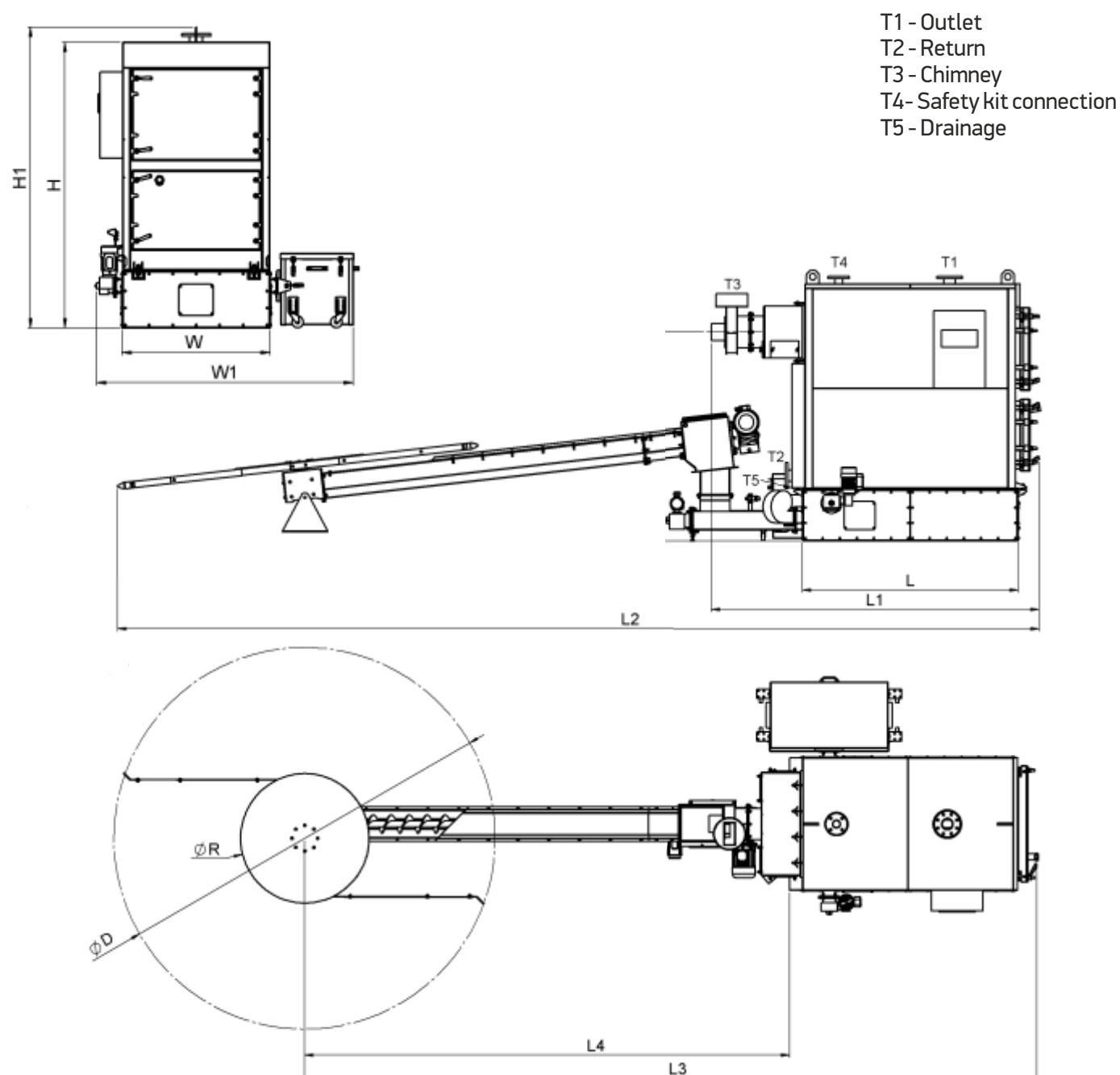
1. Three-pass heat exchanger
2. Furnace motoreducer
3. Door for heat exchanger cleaning
4. Feeding system
5. Feeding door
6. Furnace with independent primary and secondary air control
7. Automatic ash extraction
8. Exhaust fan
9. Chimney
10. Rear access door
11. Boiler return
12. Boiler outlet
13. Boiler 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



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"

OPTIONAL ACCESSORIES



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.

STORAGE AND FEEDING SYSTEMS



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

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

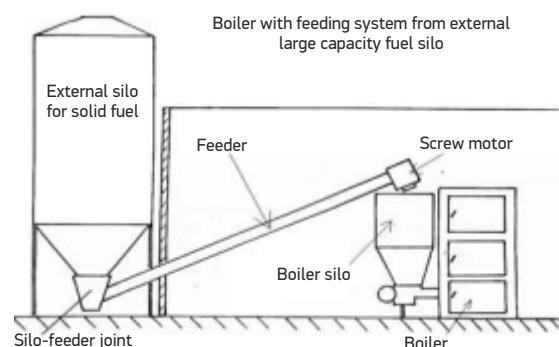
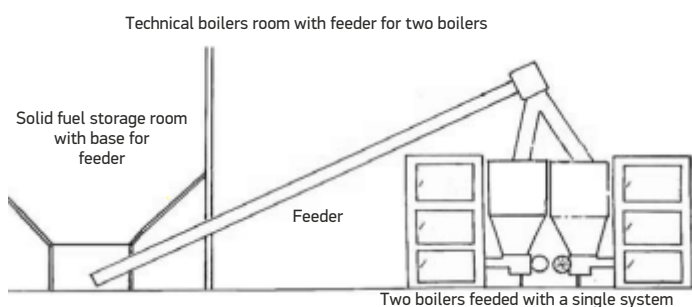


The feeding augers are specially designed according to the fuel used, the geometry of the installation and the connection to the silo.

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



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





Pellet

Pellet boiler and pellet burners

WOOD PELLET

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

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

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 is automatically adapting the air supply and the fuel dose according to the heat demand.

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

FUELS

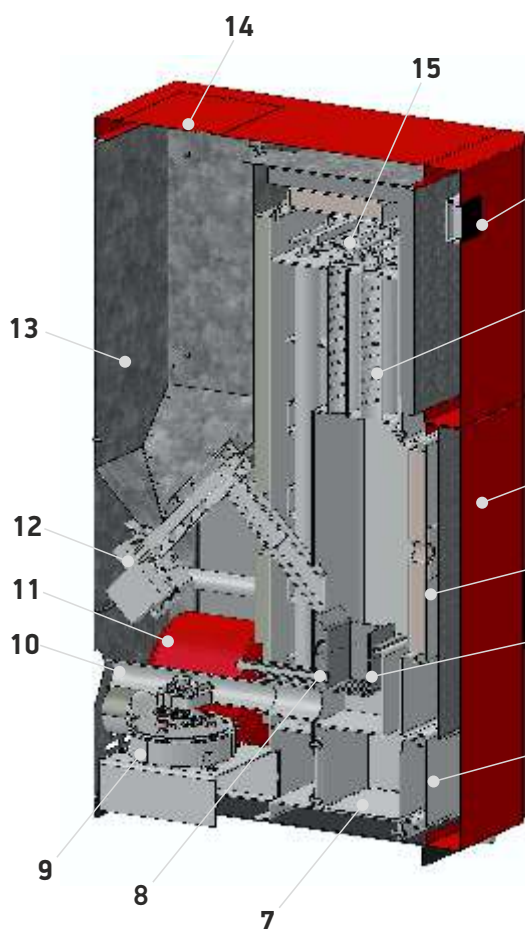


pellet

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 draught with exhaust fan
- Digital controller with multiple functions
- Integrated control of hot water boiler / buffer
- Automatic power setup with 6 power levels
- Integrated chronothermostat with individual settings for every day of the week
- Integrated connection with an external room thermostat
- Automatic error diagnosis
- Remote control through the Internet

BOILER CONSTRUCTION



1. Digital control panel
2. Vertical heat exchanger with 3 passes
3. Front door cover
4. Upper door with flame inspection glass
5. Furnace made of INOX steel
6. Lower door for ash removal
7. Ash box
8. Electrical ignitor
9. Exhaust fan
10. Air inlet pipe
11. Expansion vessel
12. Feeder motor
13. Big capacity pellet silo
14. Pellet filling door
15. Integrated cleaning mechanism

BOILER CONTROLLER



Automatic power setup



Weekly programmer



Room thermostat



Alarm signals



Multilingual menu

The boiler controller ensures the smooth and safe operation of the combustion and the heating system. The combustion is regulated in **6 power levels**, according to the heat demand.

- LCD screen (128x64 pixel)
- Menu with 6 languages, possibility to choose from a total of 24 different languages
- Boiler sensor
- Integrated control of a hot water boiler / buffer (optional sensor)
- Room thermostat connection
- Integrated weekly programmer
- Connection through Internet module (optional)
- Automatic diagnosis of errors
- 6A 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

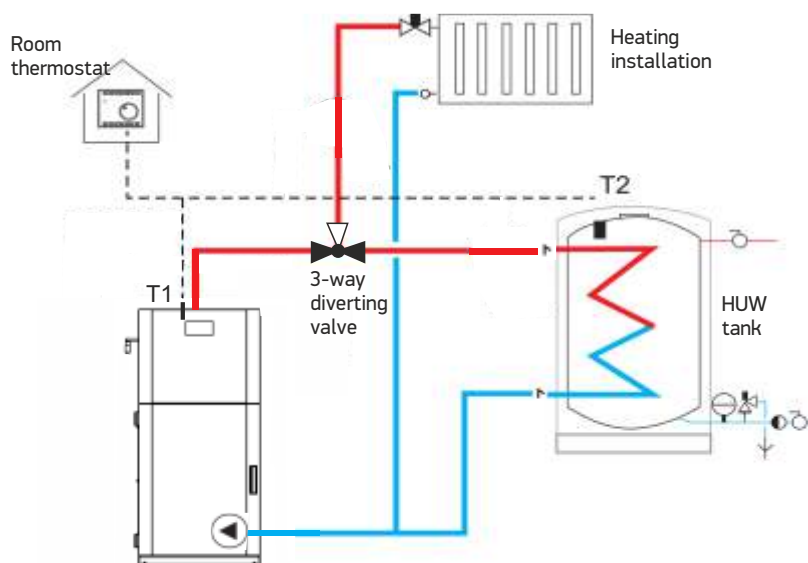
INTERNET CONTROL

By connecting the Internet module 4HEAT (optional), the user can control and modify all parameters of the boiler:

- Start / stop
- Working temperature setting
- Weekly programming
- Access to all the user menus

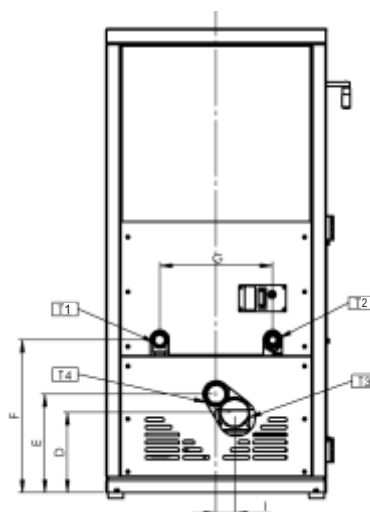
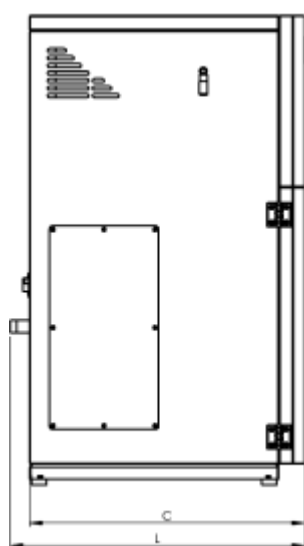
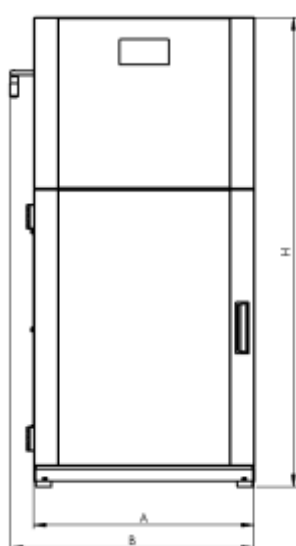


INSTALLATION SCHEME



T1 - Boiler sensor
T2 - HUW sensor (optional)

TECHNICAL DATA



T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Combustion air intake

Type		COMPACT 25	COMPACT 35
Nominal power	kW	25	35
Global power (max-min)	kW	23,54-6,98	32,55-6,98
Pellet consumption (max-min)	kg/h	5,1-1,4	7,1-1,4
Efficiency	%	93	93
Water contents	lit	55	65
Chimney diameter	mm	80	100
Fuel tank	kg/lit	55 / 80	70 / 100
Fuel autonomy (max-min)	h	25-10	23-9
Average power consumption	W	70-120	70-140
Dimensions LxWxH	mm	750x600x1245	750x710x1395
Weight	kg	220	275
Electrical connections	V/Hz	230/50	230/50

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 resistant 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 error diagnosis

MAIN FEATURES

- Built-in controller with multiple functions and LCD screen
- Automatic cleaning by means of compressed air (additional compressor requested)
- Automatic power setup according to the heat demand
- Automatic pellet feed according to power level
- Ceramic ignition 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. Adaptor for automatic cleaning connection
4. Ceramic ignition element
5. Furnace tube made of refractory steel AISI 310

Automatic cleaning system

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

The models MPB 150, 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



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.

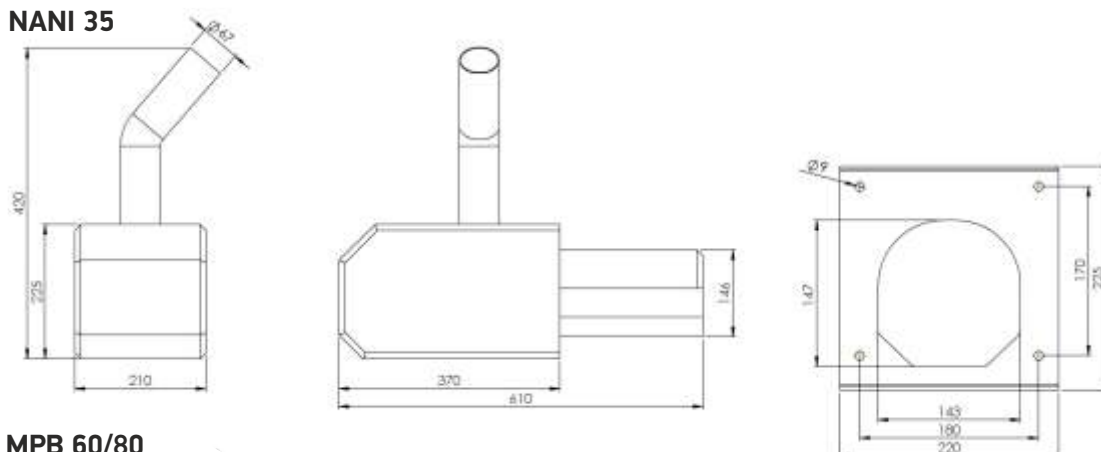
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable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

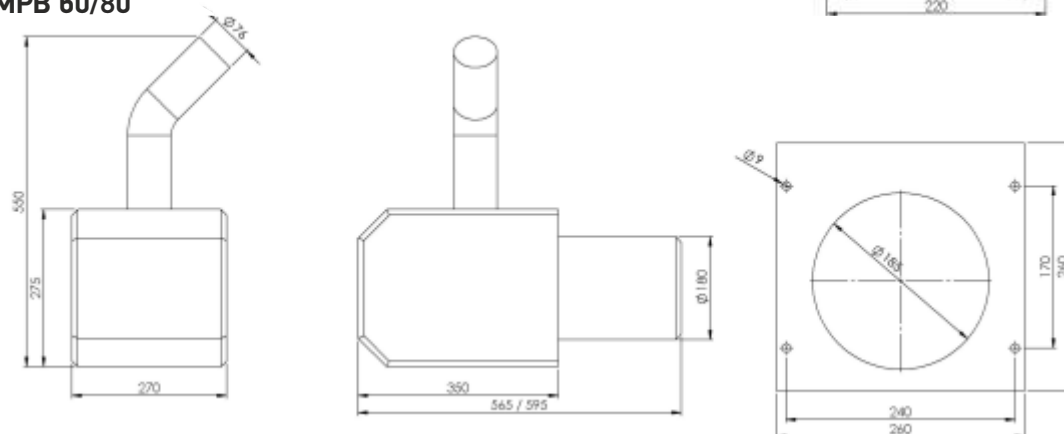
Type		NANI 35	MPB 60	MPB 80	MPB 150 Pro	MPB 250 Pro	MPB 450 Pro
Power	kW	10-40	20-60	40-80	70-150	100-250	200-450
Fuel consumption	kg/h	2-8	5-10	8-16	14-30	20-50	40-80
Min fire chamber required LxWxH	mm	350x300x350	450x350x400	650x400x500	900x600x600	1200x700x700	1500x800x800
Electric supply	V/Hz	230/50	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

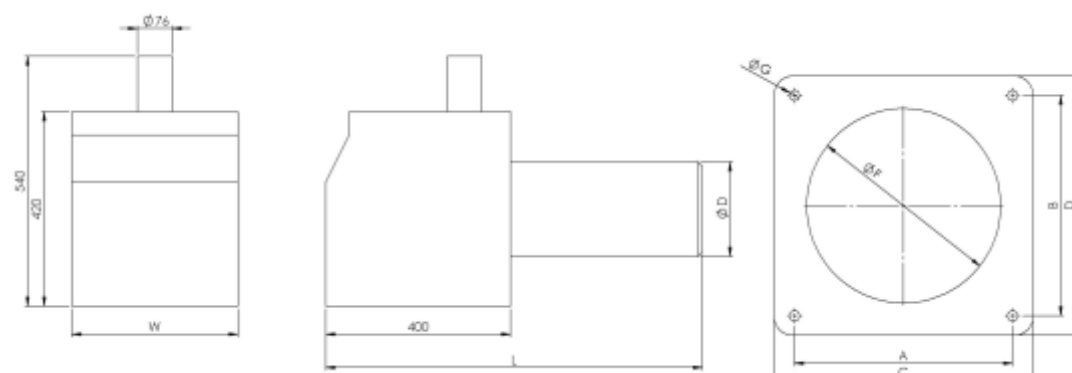
NANI 35



MPB 60/80



MPB 150/250



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.

FUELS



pellet



wood



briquettes



Combined function of wood and pellet



Automatic ignition and function on pellet



Burner automatic cleaning system with compressed air



3 years warranty



Safety features and automatic error diagnosis

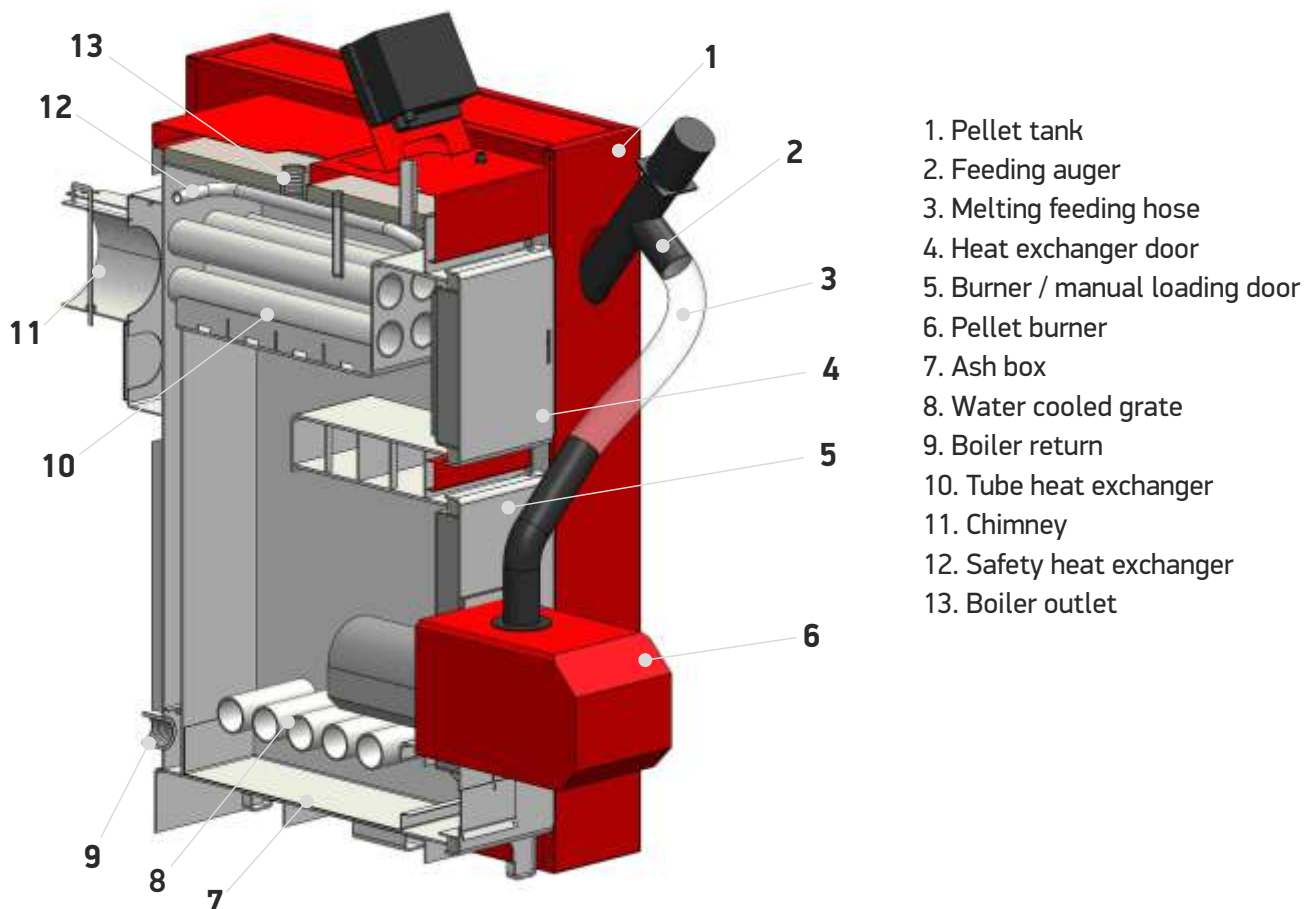
MAIN FEATURES

- 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



BOILER CONTROLLER

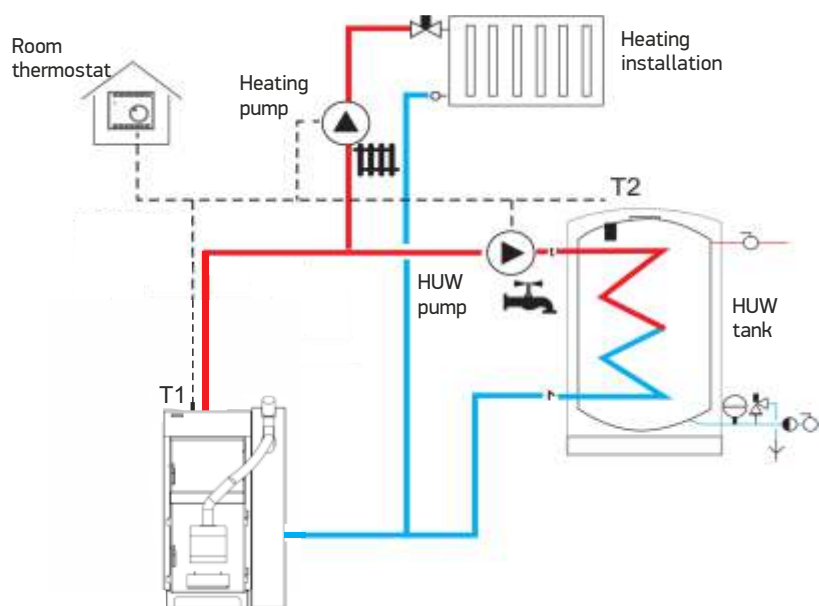


-  Automatic power level
-  Central heating pump
-  Hot water/buffer pump
-  Room thermostat
-  Alarm signals
-  Multilingual menu

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

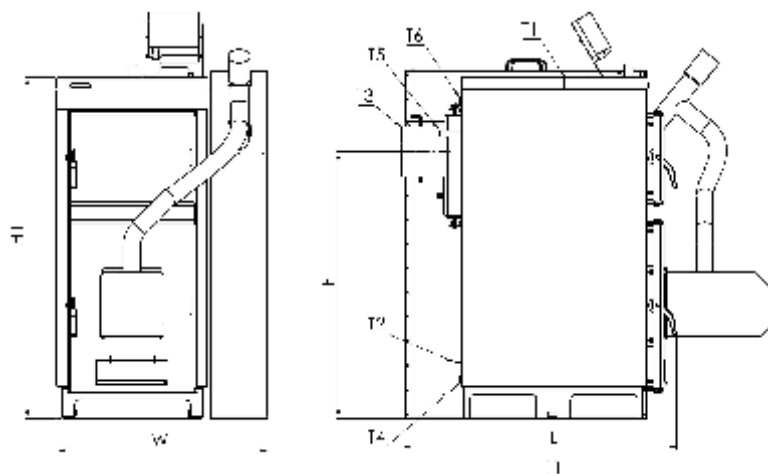
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable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

INSTALLATION SCHEME



T1 - Boiler sensor
T2 - HUW sensor (optional)

TECHNICAL DATA



T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Drainage
T5 - Safety heat exchanger
T6 - Safety heat exchanger sensor bulb connection

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
	F	mm	935	935	935	975	975	1285
	L/L1	mm	1270/960	1370/1060	1470/1160	1350/1060	1450/1160	1735/1360
	T1-T2	inch	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200
	T4	inch	½"	½"	½"	½"	½"	¾"
	T5	inch	½"	½"	½"	½"	½"	½"

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.

FUELS



pellet



Automatic power setup



Automatic ignition and flame supervision



Burner automatic cleaning system with compressed air



3 years warranty



Safety features and automatic error diagnosis

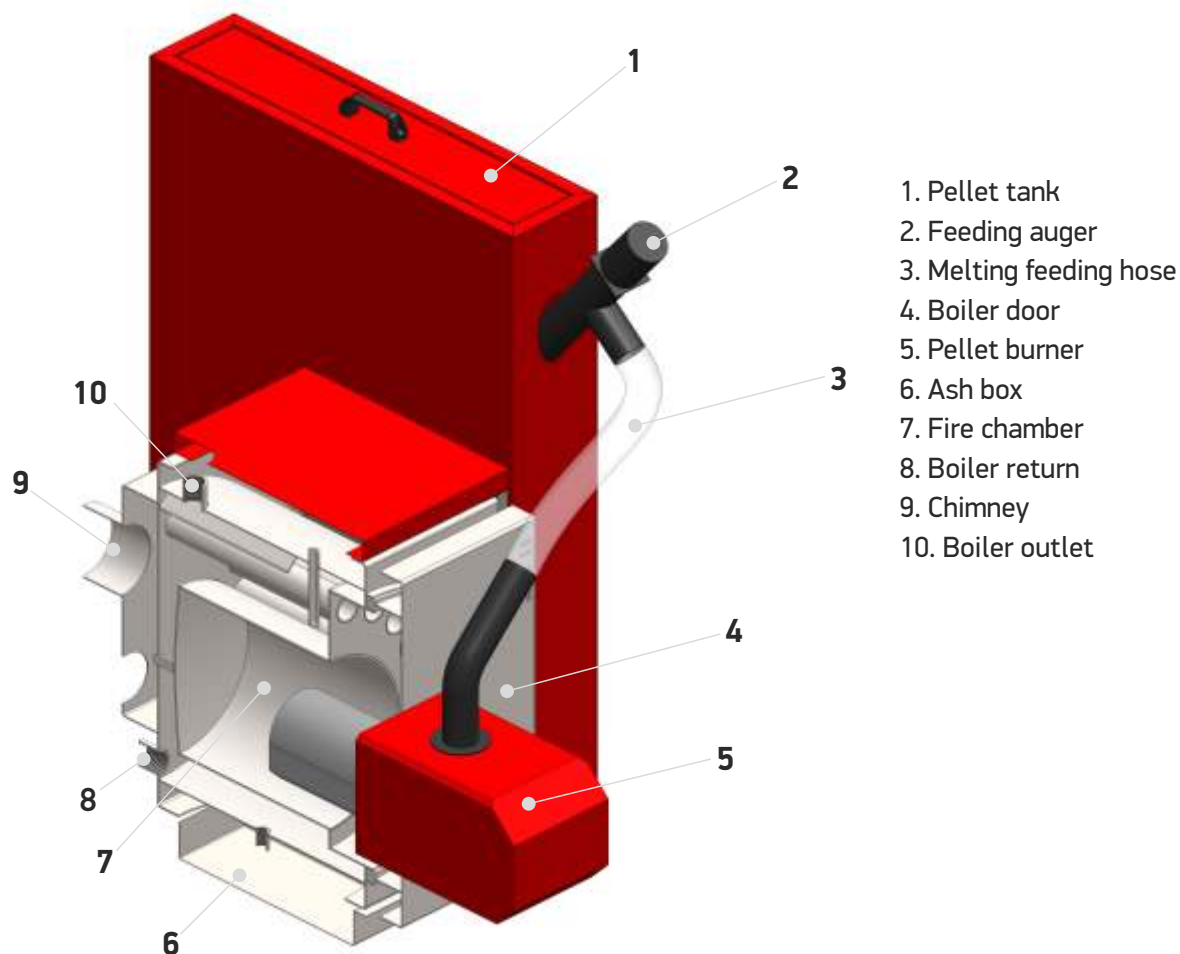
MAIN FEATURES

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

Safety devices:

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

BOILER CONSTRUCTION



BOILER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals

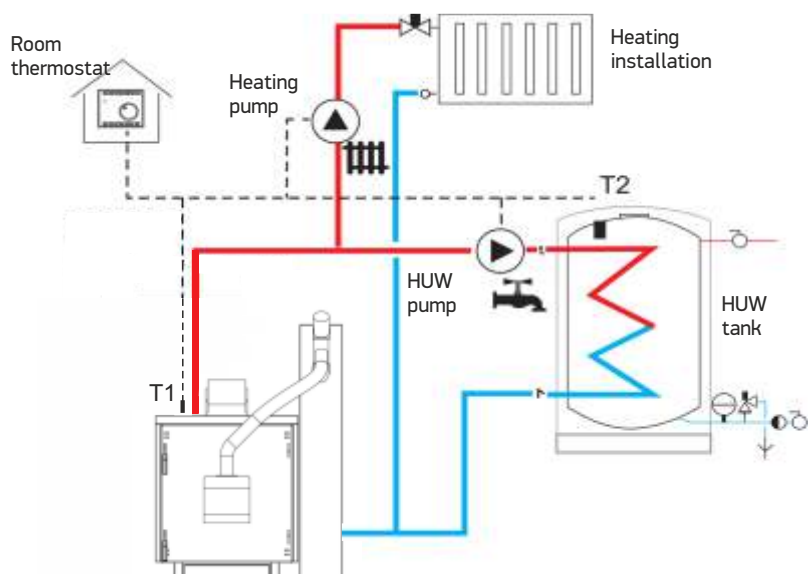


Multilingual menu

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

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

INSTALLATION SCHEME

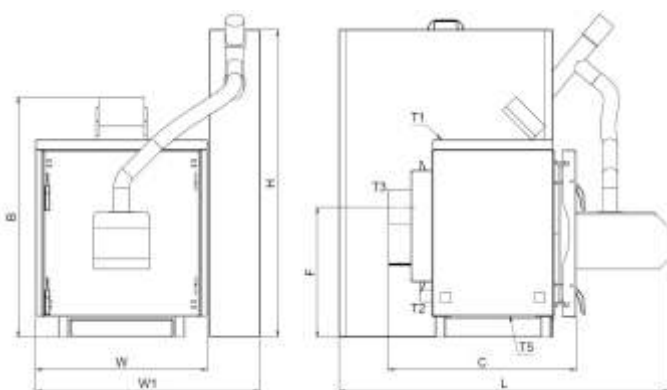


T1 - Boiler sensor
T2 - HUW sensor (optional)

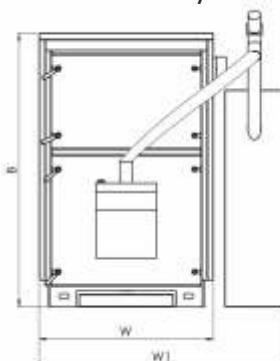
TECHNICAL DATA

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 contents	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	1540	2180
	W/W1	mm	690/890	690/890	850/1050	1035/1455	1220/1730
	C/L	mm	745/1310	845/1310	995/1310	1505/2370	2080/3000
	F	mm	515	515	600	600	1225
	T1-T2	inch	1 ¼"	1 ¼"	1 ½"	1 ½"	DN 80
	T3	mm	Ø160	Ø160	Ø200	Ø200	Ø250
	T5	inch	¾"	¾"	¾"	¾"	1"

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 warranty



Safety features and automatic error diagnosis

FUELS

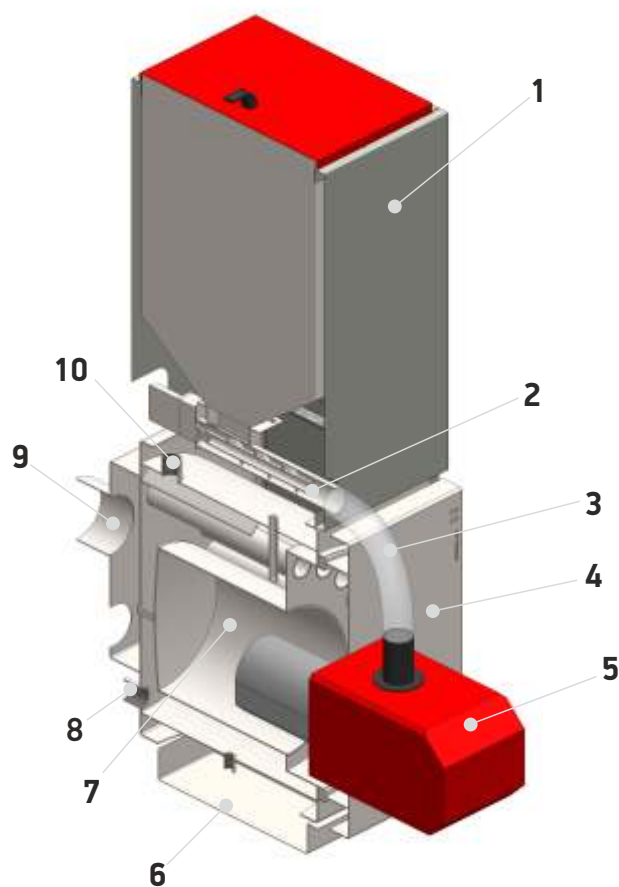


pellet

MAIN FEATURES

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

BOILER CONSTRUCTION



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

BOILER CONTROLLER



Automatic power level



Central heating pump



Hot water/buffer pump



Room thermostat



Alarm signals

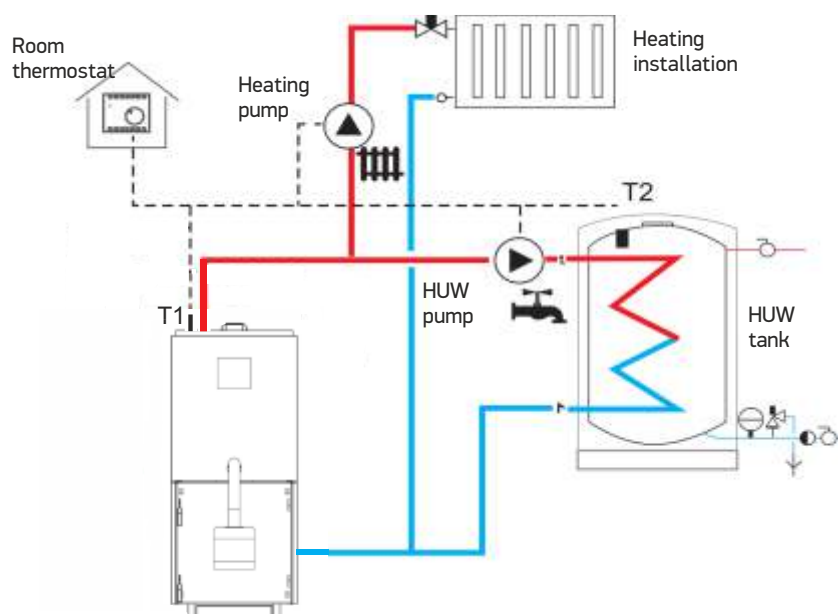


Multilingual menu

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

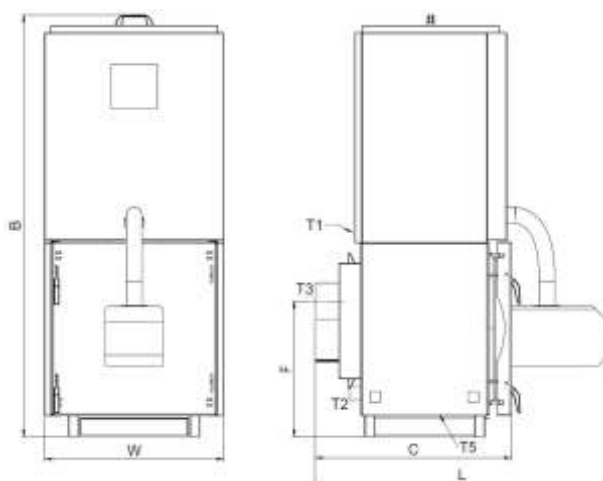
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- HUW/buffer temperature sensor (optional)
- Electric cable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

INSTALLATION SCHEME



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"

PROFI DUO

combined wood and pellet unit 150-400 kW



PROFI DUO is a fully automatic pellet unit. It consists of a high efficiency steel 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.

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)



Combined function of wood and pellet



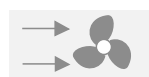
Burner automatic cleaning system with compressed air



Advanced digital controller

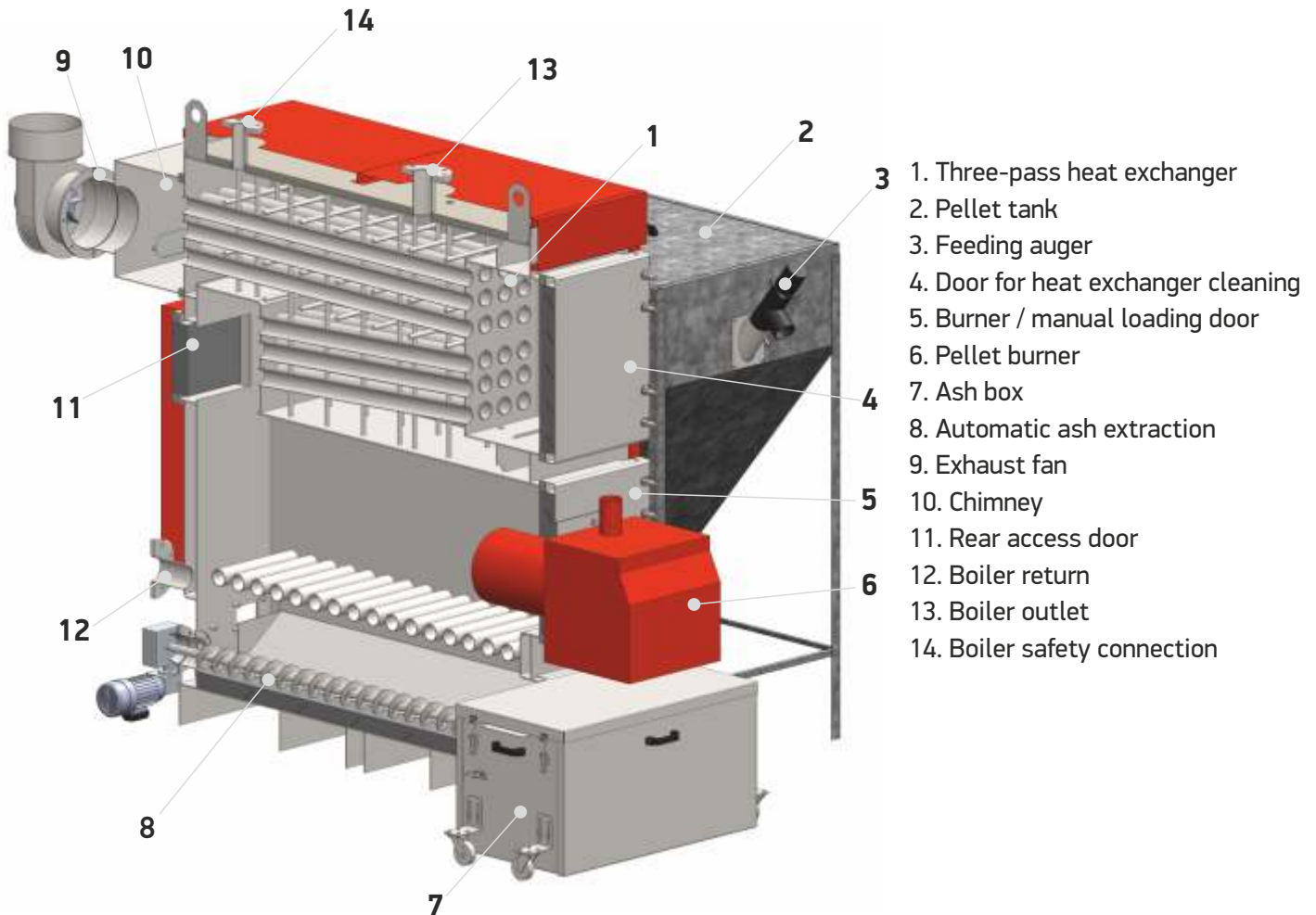


Ash extraction



Exhaust fan control

BOILER CONSTRUCTION



BOILER CONTROLLER



Automatic power level



Central heating pump



Room thermostat



Alarm signals

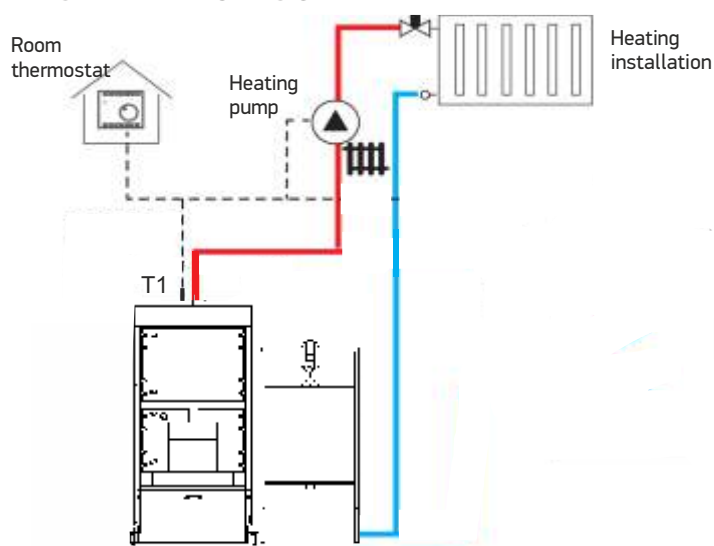


Multilingual menu

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.

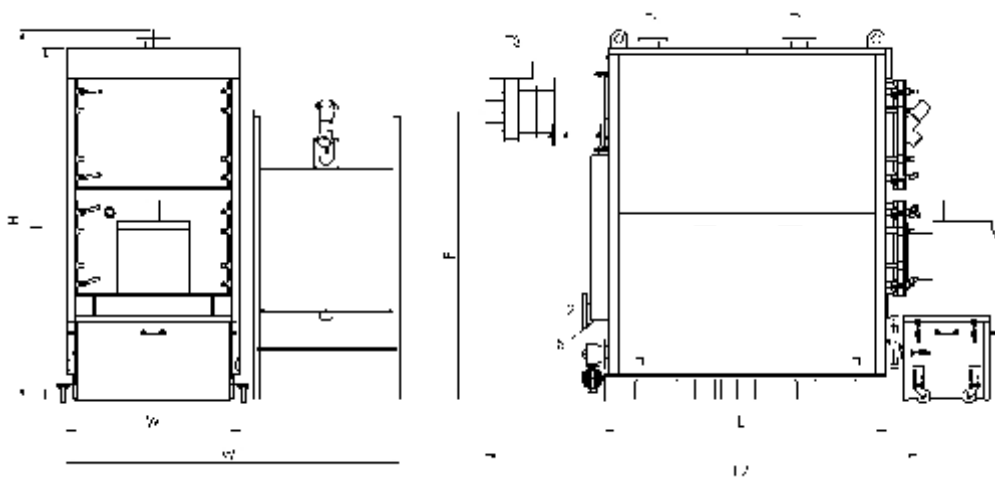
- LCD screen (2x20 characters)
- 5 menus (A. Furnace settings, B. HUW settings, C. Burner settings, D. Device settings, E. Manufacturer settings)
- Five languages : English, Greek, Polish, German, Romanian
- Boiler/furnace temperature sensor
- Exhaust fan speed control according to power level
- Electric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

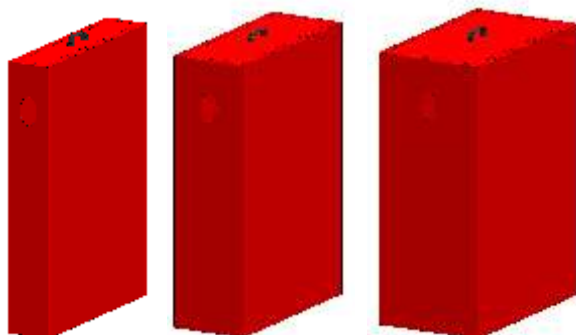
TECHNICAL DATA



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"

OPTIONAL ACCESSORIES



SLIM

MID

MAX



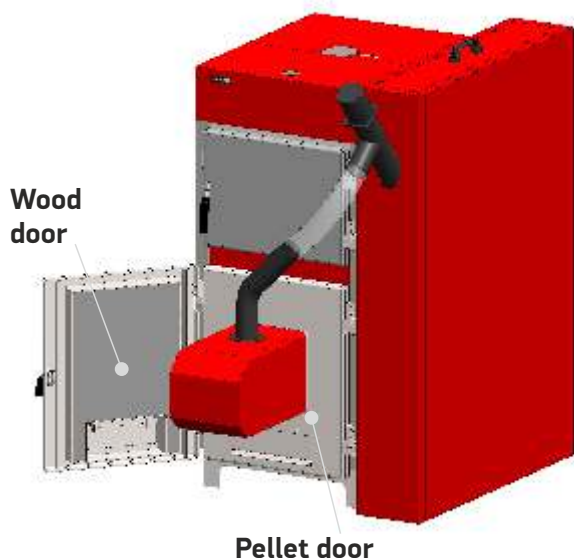
Fuel tank

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

Equipped with lid and plastic handle.

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

*Weight is calculated for bulk density 700kg/m³



Double door kit

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



HUW sensor

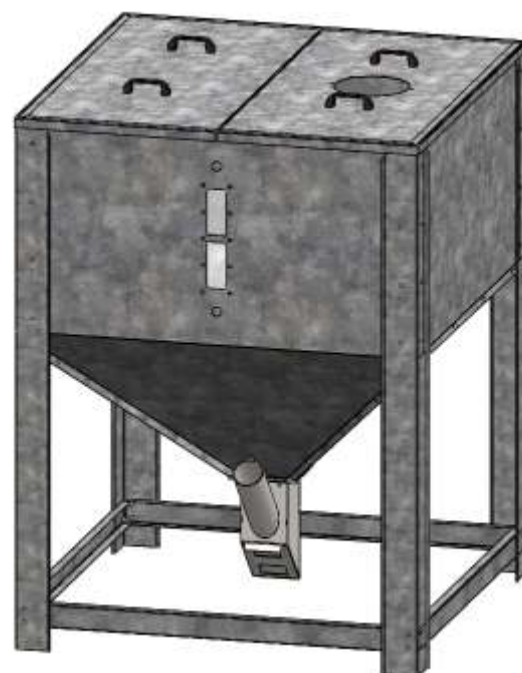
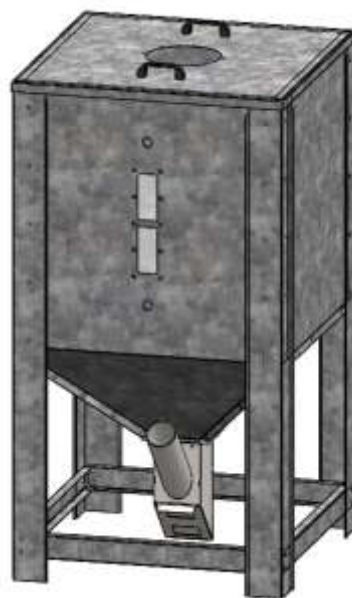
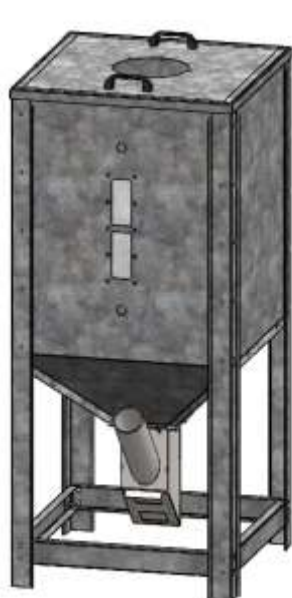
Permits control of hot water tank or buffer tank.



Automatic cleaning system

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

STORAGE SYSTEMS

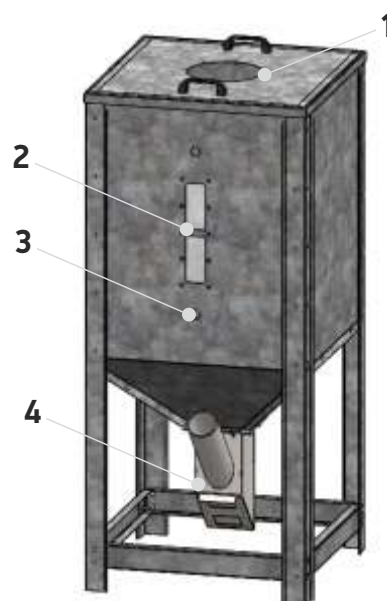


PELLET TANK

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

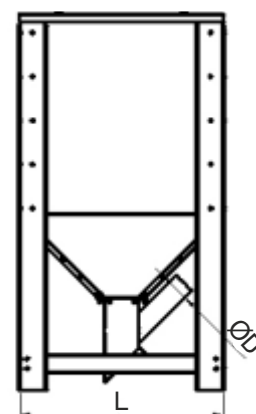
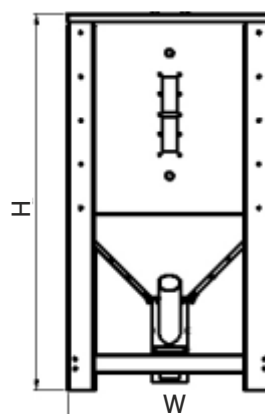
It is equipped with lid and plastic handle, inspection window for the fuel level, possibility of installing an automatic fuel filling system by means of a pneumatic vacuum and level sensors (optional).

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 / weight 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 and an overheating safety heat exchanger.



Big dimensions fire chamber



Economic function

3
years

3 years product warranty

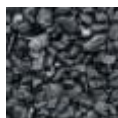
FUELS



wood



briquettes

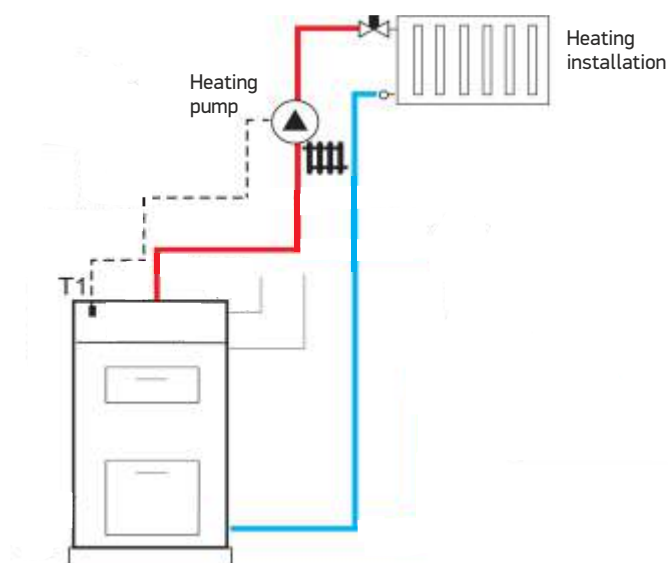


carbon

MAIN FEATURES

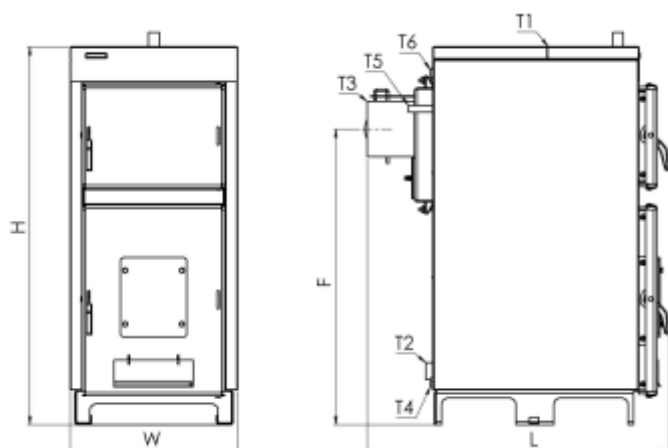
- Big fire chamber for high volume of fuel loading
- Three pass construction for high efficiency and small dimensions
- Robust construction
- Tubed heat exchanger
- Easy installation of a pellet burner
- Integrated safety heat exchanger
- Economic function
- Function with chain thermostat regulator

INSTALLATION SCHEME



T1 - Immersion thermostat
(not included)

TECHNICAL DATA



T1 - Outlet
T2 - Return
T3 - Chimney
T4 - Drainage
T5 - Safety heat exchanger
T6 - Safety heat exchanger sensor bulb
connection

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
	W	mm	530	530	530	660	660	785
	F	mm	935	935	935	975	975	1285
	L	mm	960	1060	1160	1060	1160	1560
	T1-T2	inch	1 ½"	1 ½"	1 ½"	1 ½"	1 ½"	2"
	T3	mm	Ø180	Ø180	Ø180	Ø180	Ø180	Ø200
	T4	inch	½"	½"	½"	½"	½"	¾"
	T5	inch	½"	½"	½"	½"	½"	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 and an overheating safety heat exchanger.



Full fan modulation



Fumes sensor modulation
Flame detection



Economic function



3 years product warranty



Safety devices and alarm signals

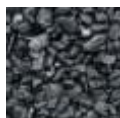
FUELS



wood



briquettes

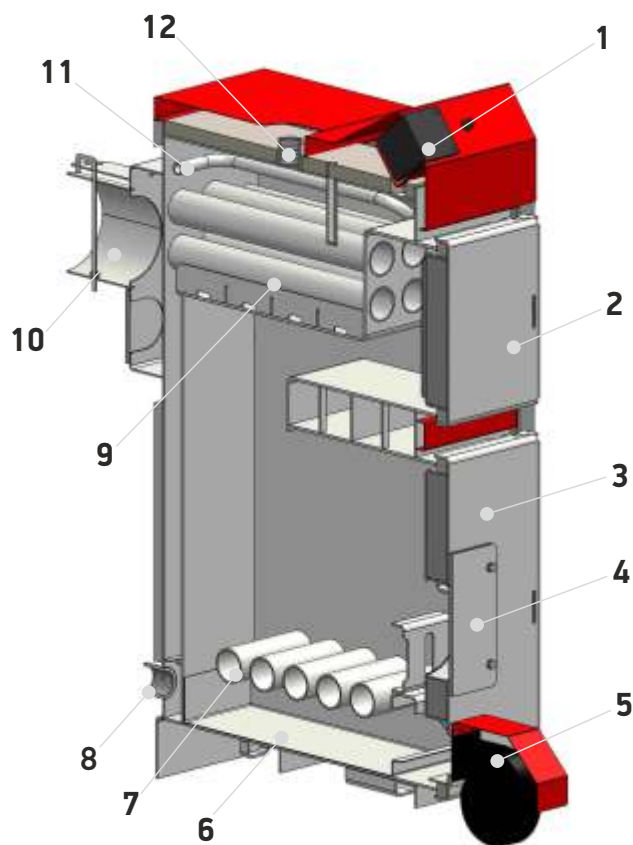


carbon

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
- Integrated safety heat exchanger
- Digital controller with user-friendly interface
- Control of heating pump and hot water pump
- Full fan modulation
- Exhaust gas temperature sensor (optional)
- Automatic fuel lack recognition
- Ignition mode and flame supervision mode
- Overheating alarm signal

BOILER CONSTRUCTION



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. Water cooled grate
8. Boiler return
9. Tube heat exchanger
10. Chimney
11. Safety heat exchanger
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

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

The technical drawings illustrate the dimensions of the THERMATEC 6000 unit. The front view shows a rectangular unit with a height dimension labeled H1 and a width dimension labeled W. The side view shows the unit's profile with a total height dimension L and a base width dimension L1. Specific mounting points are labeled T1 through T6.

- T1 - Outlet
- T2 - Return
- T3 - Chimney
- T4 - Drainage
- T5 - Safety heat exchanger
- T6 - Safety heat exchanger sensor bulb connection

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	935	935	935	975	975	1285	1285
	L1	mm	1125	1225	1325	1225	1325	1525	1725
	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	½"	½"	½"	½"	½"	¾"	¾"
	T5	inch	½"	½"	½"	½"	½"	½"	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 warranty

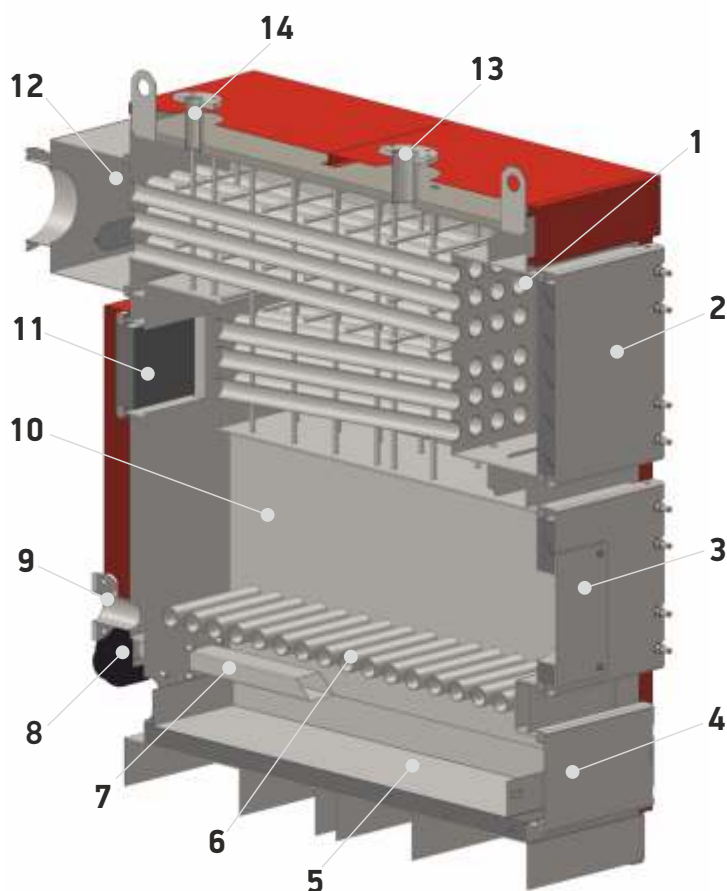


Safety devices and alarm signals

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 command to an auxiliary boiler. A room thermostat can be also connected to the controller.

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



Fan modulation



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

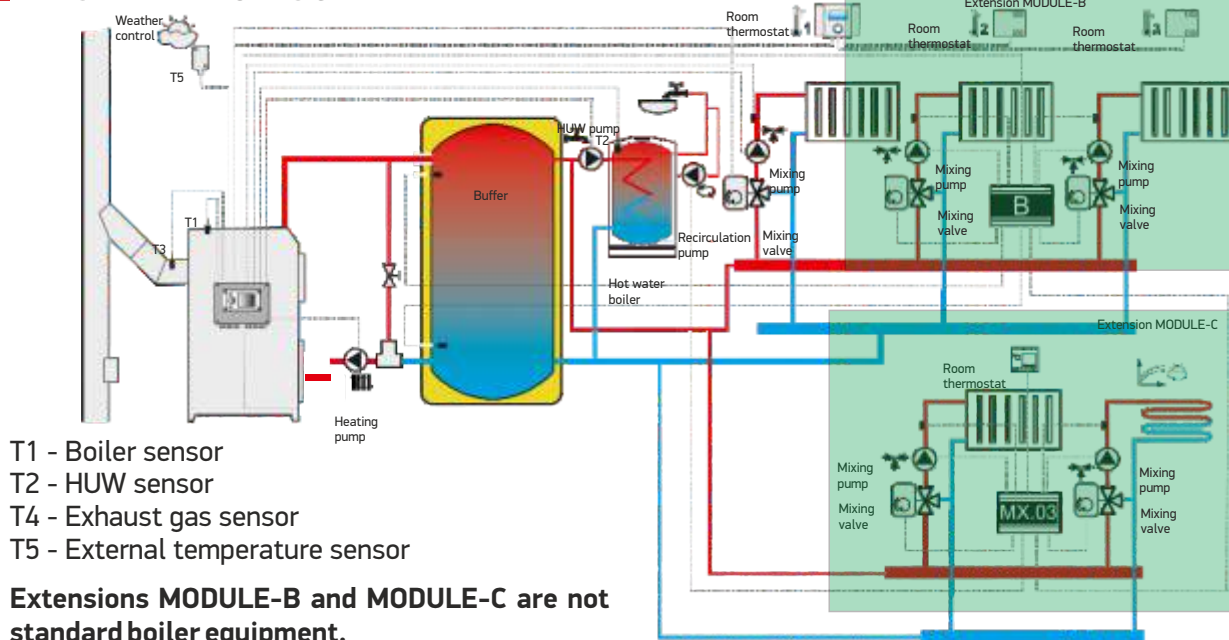


Alarm signals

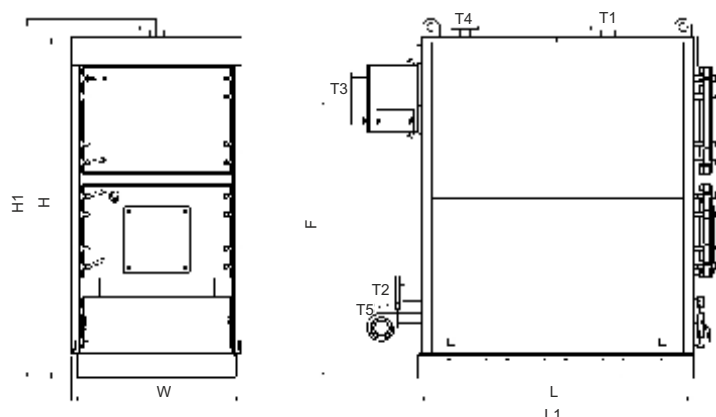


Overheating protection

INSTALLATION SCHEME



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



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.



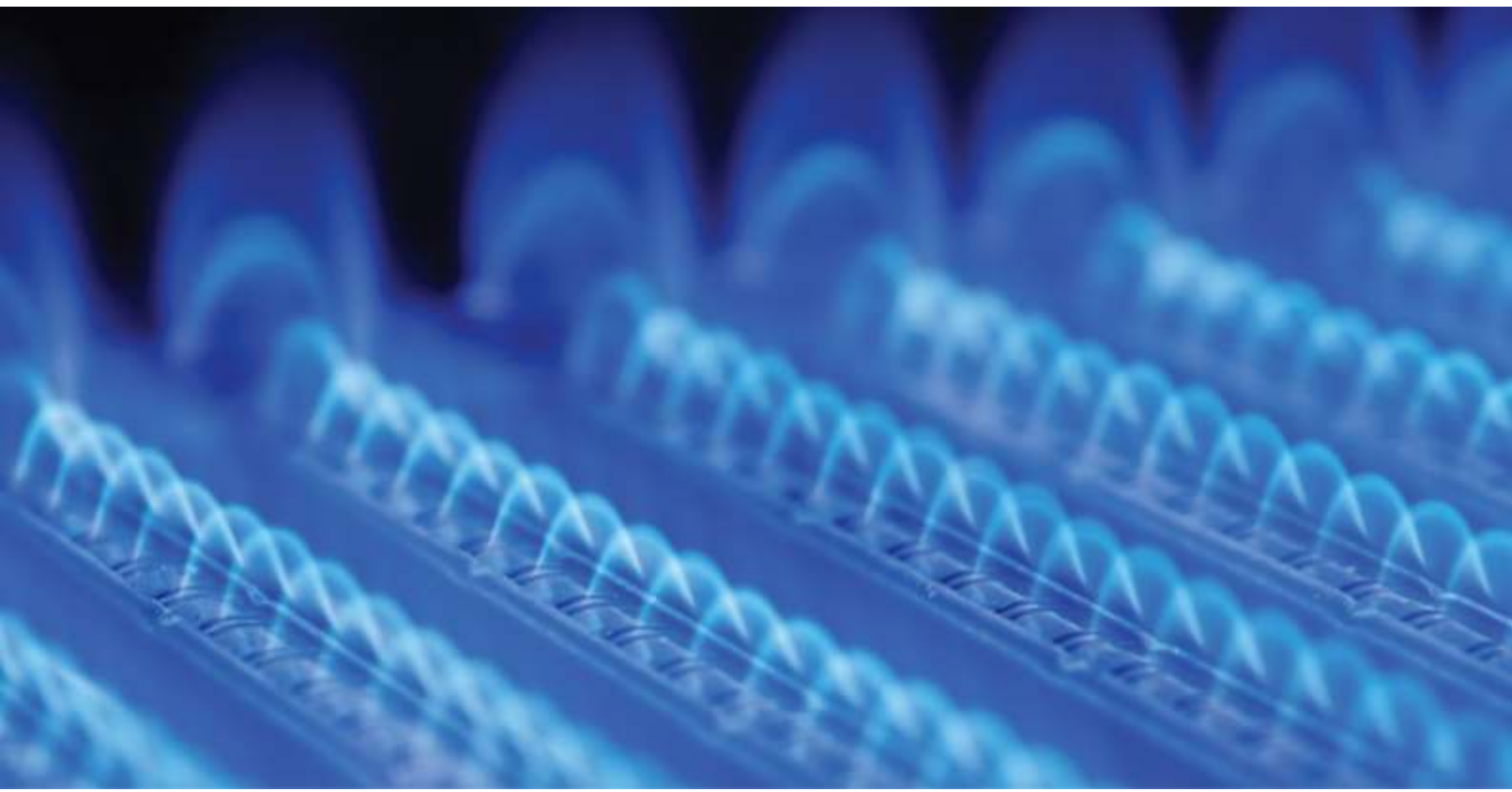
Exhaust gas sensor

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.

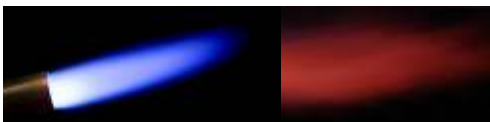
Its construction is cylindrical, with large fire chamber, improved heat exchanger surfaces and high performance turbinators. It is of high back-pressure in the fire chamber, designed to function with pressurized liquid or gas burners (the burner is not included).

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



Control panel for one/two stage burner

3
years

3 years warranty

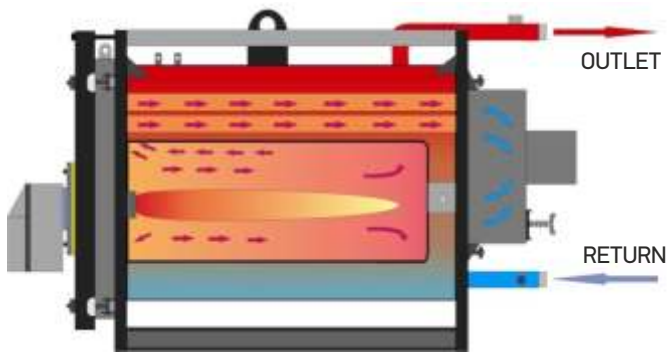


Safety thermostat

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 components

WORKING PRINCIPLE

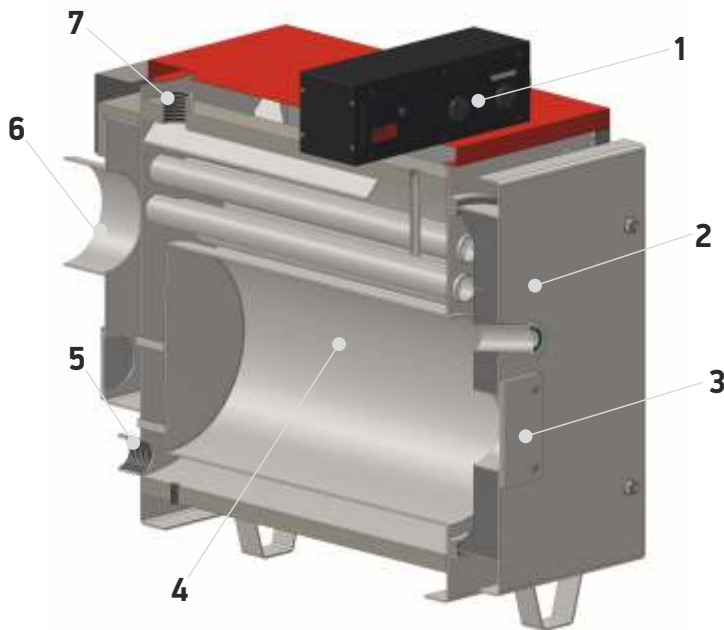


ENP hot water boilers have high back-pressure in the fire chamber, designed to function with pressurized liquid or gas burners.

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

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

BOILER CONSTRUCTION



1. Control panel
2. Boiler door
3. Burner mounting flange
4. Fire chamber
5. Boiler return
6. Chimney
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 construction is performed and certified according to European Standard concerning pressure equipment 2014/68/EC by TUV AUSTRIA.

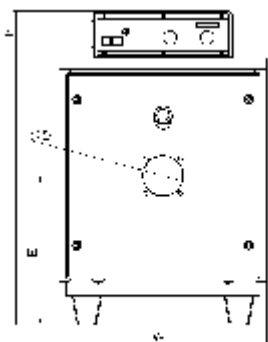
The production quality system is certified by EN ISO:9001.



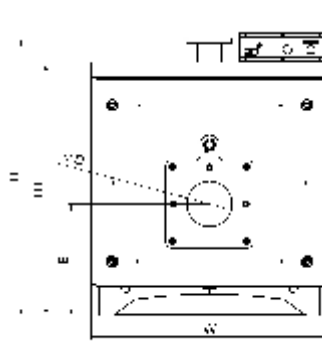
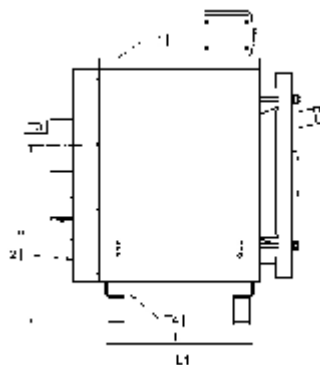
TECHNICAL DATA

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

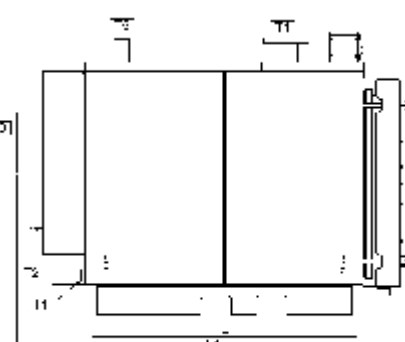
DIMENSIONS



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 55°C.

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

FUELS



gas/liquid



Condensing technology



Heating pump control



Control panel for one/two stage burner

AISI 316

High quality stainless steel

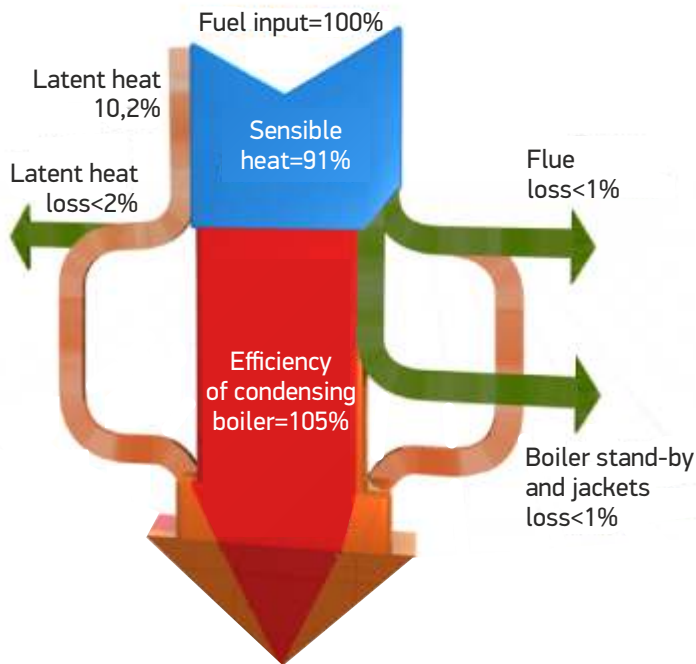


Safety function

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%
- Condensing 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



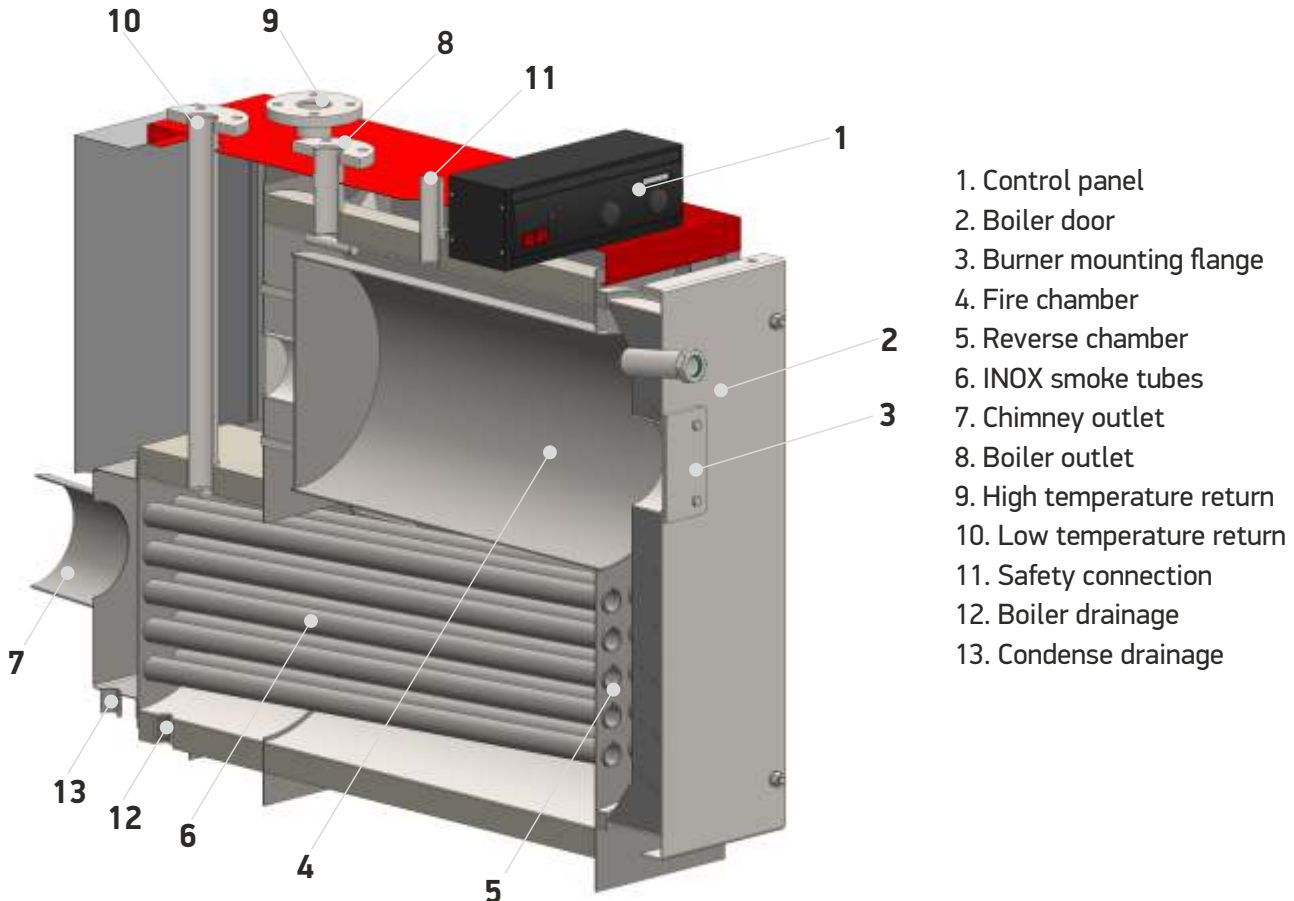
In a conventional boiler, the water is heated through the heat of combustion, and the resulting flue gases are guided to the chimney. As a result, the energy contained in the flue gas is lost.

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.

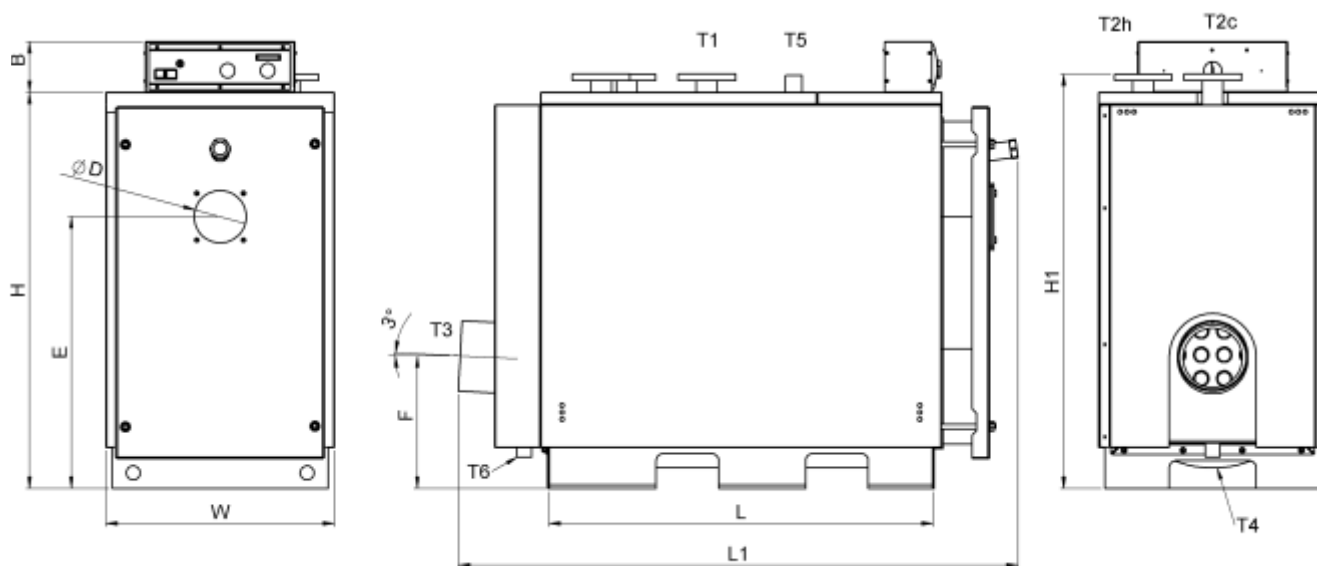
BOILER CONSTRUCTION



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 $\Delta T=15K$	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 1/2"	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



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

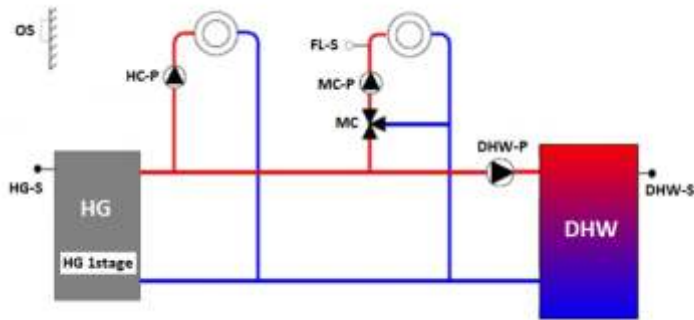
Heatapp Internet module



Heatapp 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



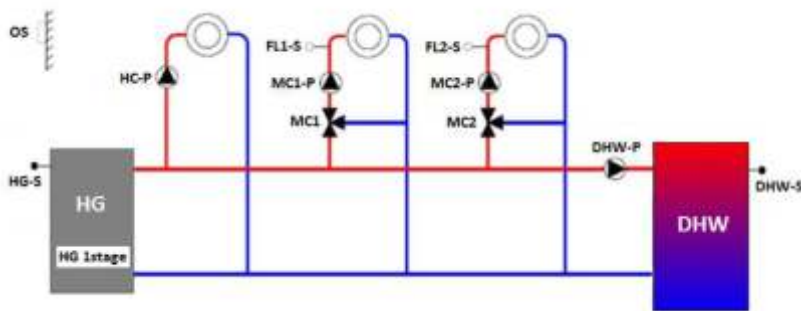
Control:

- 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



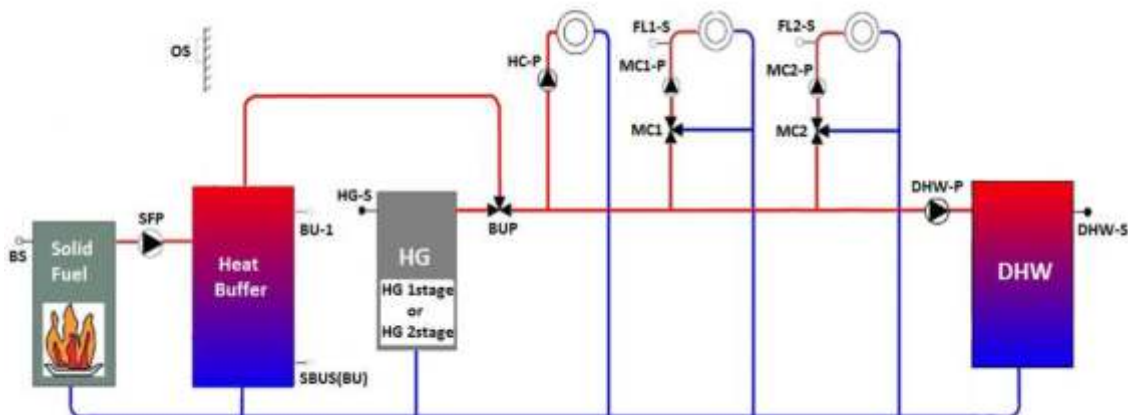
Control:

- 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.

CS

vacuum tubes panels



Pressurized solar collector with vacuum tubes and heat-pipe technology. Each tube works independently and the damage of a tube does not cause the solar system to malfunction, but only the reduction of the absorption and heating capacity.

The cylindrical shape of the tubes gives them the ability to optimally capture the sun's rays throughout the day, thus ensuring a good performance even in cloudy conditions.

MAIN CHARACTERISTICS

- **Heat-pipe technology** with starting temperature +10°C and freezing temperature -50°C
- Heat-pipe condenser diameter of 22 mm
- Borosilicate glass with a thickness of 1,8 mm, resistant to hail up to 30 mm
- Absorption structure with 3 layers, which allows an absorption rate of 92-96% and a stagnation temperature of 270°C
- Equipped with radiant aluminum foil with a thickness of 0,2 mm
- Collector ramp made of stainless steel, with PVC protection
- Copper heat exchanger Ø42 mm, insulated in mineral wool and rigid polyurethane shell
- Temperature sensor sheaths on both ends
- Connections with 3/4" external thread, covered in insulation

TECHNICAL DATA

Type		CS 10	CS 15	CS 20	CS 25	CS 30
Number of tubes		10	15	20	25	30
Absorbing surface	m ²	1,0	1,5	2,0	2,5	3,0
Max working pressure	bar	8	8	8	8	8
Max working temperature	°C	180	180	180	180	180
Water volume	lit	0,83	1,25	1,66	2,08	2,50
Connections	inch	3/4"	3/4"	3/4"	3/4"	3/4"
Power (a1=1000 W/m ²)	W	680	1020	1360	1700	2040
Ideal flow	lit/min	2,0	2,0	2,5	2,5	2,5
Max flow	lit/min	18	18	18	18	18
Daily heating capacity (ΔT=40°C)	lit	85-100	105-150	140-200	175-250	210-300
Dimensions LxWxH	mm	800x2000x180	1295x2000x180	1670x2000x180	2000x2000x180	2400x2000x180
Weight	kg	33	47	62	78	92

PS

pressurized solar system



VACUUM PS is a natural circulation pressurized system for hot water production from solar energy.

The vacuum tubes are equipped with a heat-pipe and do not contain water. Solar panels with vacuum tubes offer the highest performance of capturing solar energy.

The water tank is made of stainless steel (INOX 316L) 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 safety valve and anode protection.

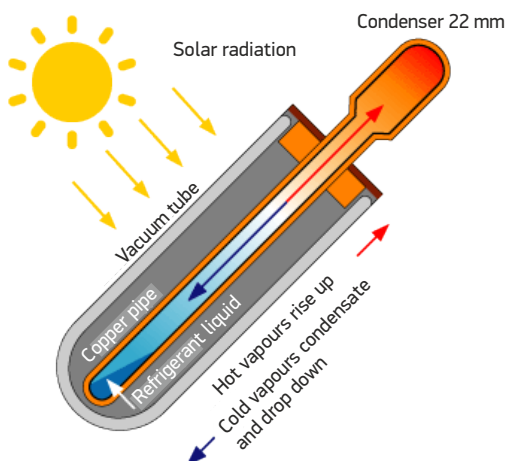
The system comes together with metal support for easy installation on flat or inclined roof.

BOILER CONSTRUCTION



- Made of AISI 316L stainless steel with a thickness of 1.5 mm, resistant in highly corrosive environments, welded in an argon environment
- Outer casing in AISI 430 stainless steel, with protective film
- Insulated with rigid polyurethane foam, with a density of 40 kg/m³ and a thickness of 50 mm
- Equipped with magnesium anode and 4 bar safety valve
- Possibility of equipping with electric resistance

SOLAR COLLECTOR CONSTRUCTION

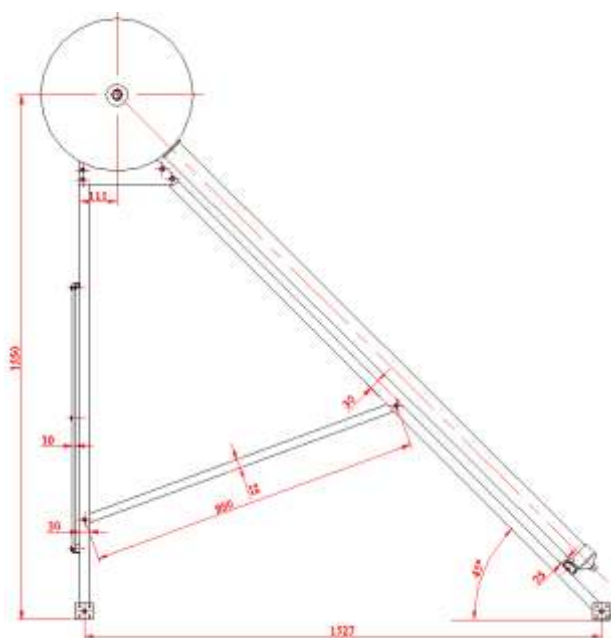


- Borosilicate glass with a thickness of 1,8 mm, resistant to hail up to 30 mm
- Absorption structure with 3 layers, which allows an absorption rate of 92-96% and a stagnation temperature of 270°C
- The vacuum allows a very good absorption even in the cold season
- Heat-pipe with starting temperature +10°C and freezing temperature -50°C
- Heat-pipe condenser diameter of 22 mm
- Equipped with radiant aluminum foil with a thickness of 0,2 mm

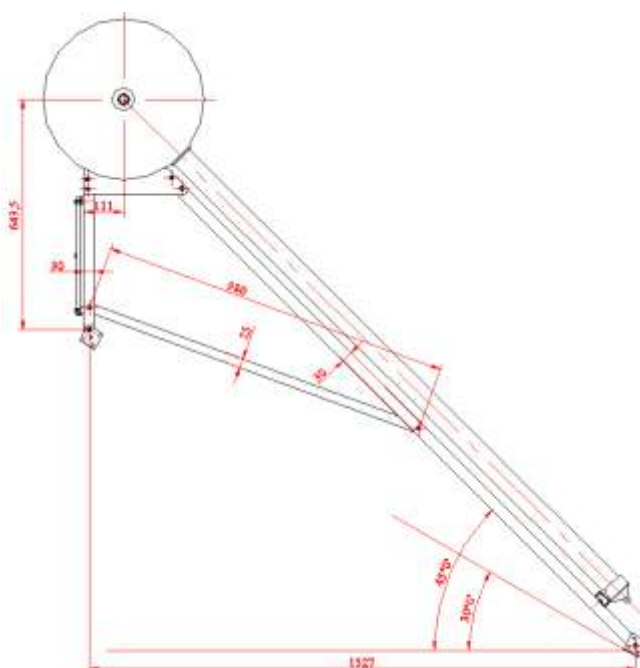
TECHNICAL DATA

Type		PS 120	PS 150	PS 190	PS 250
Water tank volume	lit	120	150	190	250
Nr. of tubes		10	12	15	20
Number of reflectors		9	11	14	19
Absorbing surface	m ²	1,78	2,16	2,72	3,65
Indicative nr. of users		1-2	2-3	2-4	3-5
Installation angle		30-45°			
Resistance connection	inch	1/2"			
Hot water connections	inch	1/2"	1/2"	1/2"	1/2"
Max working pressure	bar	6	6	6	6
Max working temperature	°C	120	120	120	120
Max water debit	lit/min	35	35	35	35
Collector dimensions	mm	1750x1750x1300	1750x1750x1520	1750x1750x1850	1750x1750x2400
Water tank dimensions	mm	470x470x1300	470x470x1520	470x470x1850	470x470x2400
Weight	kg	70	86	103	135

DIMENSIONS



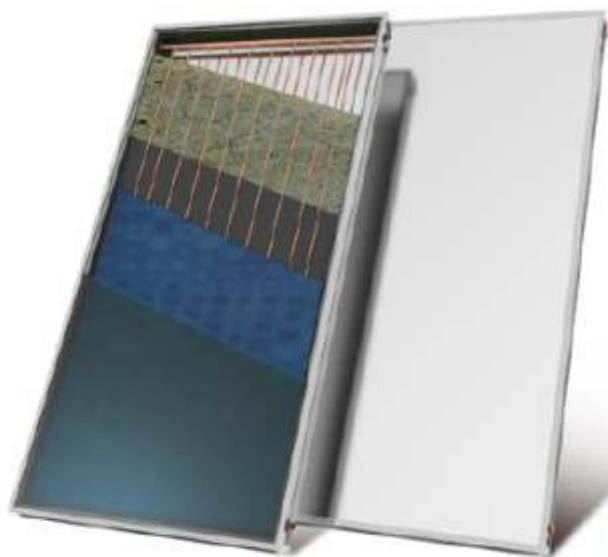
Flat roof



Inclined roof

EVO

flat solar panels



MAIN FEATURES

- Selective surface solar
- Collector made completely of aluminium
- Water piping made of copper Ø22 and Ø10
- Solar radiation absorbance $\alpha=95\%$ ($\pm 2\%$) - reflection factor $\epsilon=5\%$ ($\pm 2\%$)
- Strong thermal insulation of compressed rockwool 50 mm thickness, $\lambda=0,032 \text{ W/m}^2\text{K}$
- High quality tempered glass for maximum solar captivity and strength
- Sealing with EPDM rubber with UV protection cu silicon tip EPDM rezistent la temperatură 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	m ²	1,50	1,75	2,00	2,30	2,50	2,75
Max working temperature	bar	10	10	10	10	10	10
Max working temperature	°C	165	165	165	165	165	165
Water volume	lit	0,96	1,12	1,28	1,47	1,60	1,76
Connections	mm	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22
Solar absorbance α	%	95	95	95	95	95	95
Reflection factor ϵ	%	5	5	5	5	5	5
Collector efficiency	%	67	67	67	67	67	67
Thermal losses-a1	%	3,95	3,95	3,95	3,95	3,95	3,95
Thermal losses-a2	%	0,016	0,016	0,016	0,016	0,016	0,016
Weight	kg	30	35	40	46	50	55

ENERSOLAR

natural circulation solar system



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

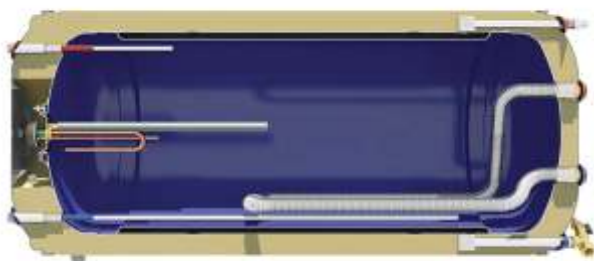
The solar collectors have selective surface for maximum absorbance and are covered with high strength tempered glass.

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.

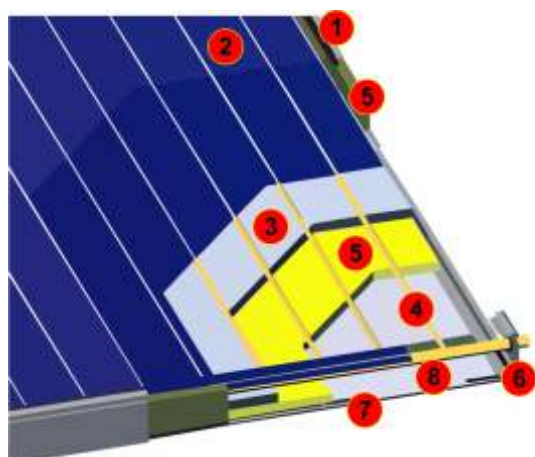
The system comes together with metal support for easy installation on flat or inclined roof.

BOILER CONSTRUCTION



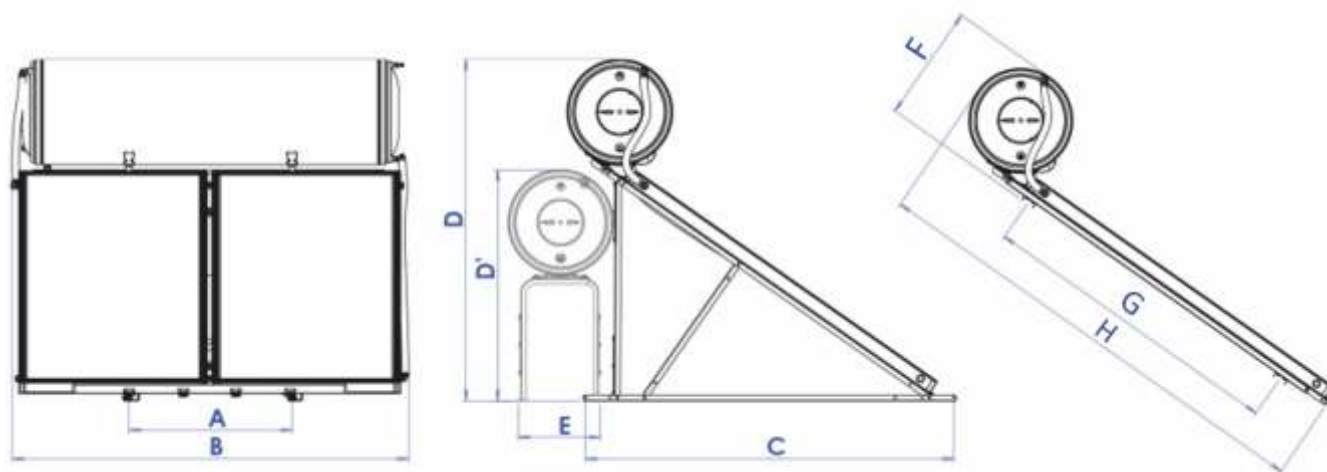
- Made of cold rolled steel 2,5mm thickness
- Glass internal coating
- Thermal external insulation from expanded polyurethane
- External protection with electrostatically painted steel
- Anode protection
- Big round flange for easy cleaning
- Electrical resistance 4 kW with bipolar safety thermostat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

SOLAR COLLECTOR CONSTRUCTION



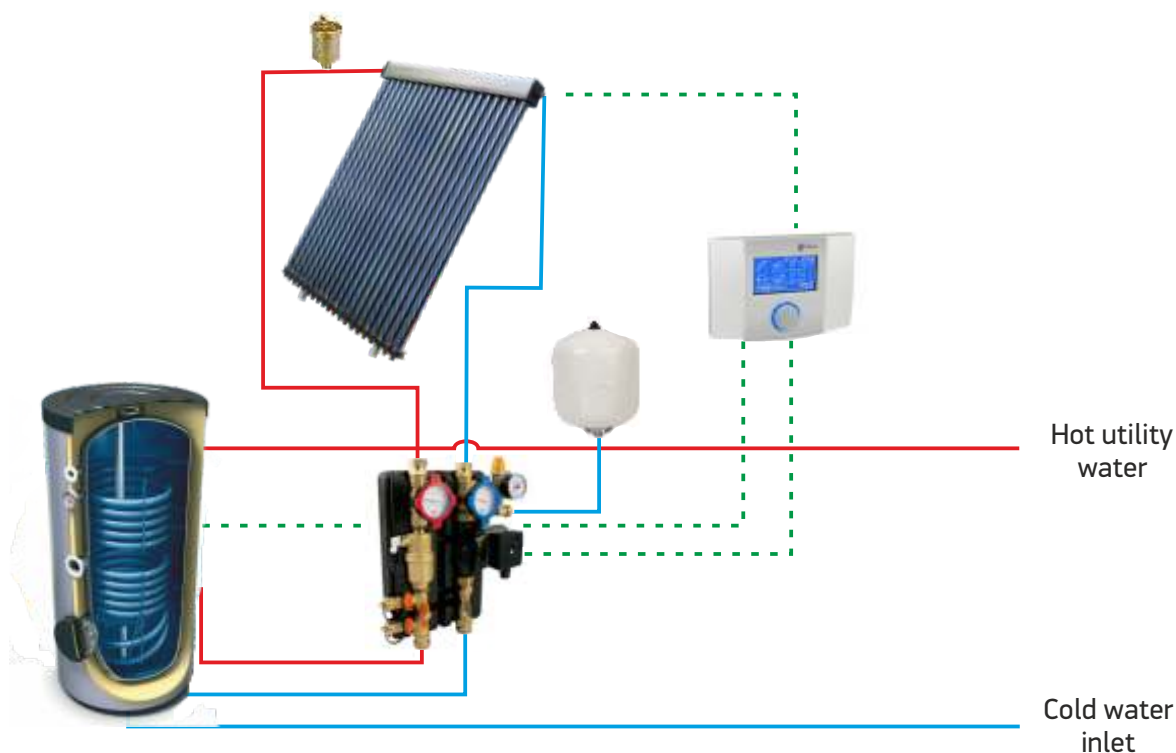
- Selective surface solar
- Collector made completely of aluminium
- Water piping made of copper Ø22 and Ø10
- Solar radiation absorbance $\alpha=95\%$ ($\pm 2\%$) - reflection factor $\epsilon=5\%$ ($\pm 2\%$)
- Strong thermal insulation of compressed rockwool 50 mm thickness, $\lambda=0,032 \text{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

TECHNICAL DATA



Type			SLE 120/2	SLE 160/2.6	SLE 160/3	SLE 200/3	SLE 200/4
Water tank volume	lit		120	160	160	200	200
Nr. of solar collectors			1	1	2	2	2
Collector dimensions	m		1,00x2,00	1,28x2,00	1,00x1,50	1,00x1,50	1,00x2,00
Absorbing surface	m ²		2,0	2,6	3,0	3,0	4,0
Indicative nr. of users			1-2	2-3	2-4	3-5	3-5
Installation angle			35-45°				
Electrical resistance	kW/V		4 / 230				
Hot water connections	inch		1/2"	1/2"	1/2"	1/2"	1/2"
Heat exchanger connections	inch		3/4"	3/4"	3/4"	3/4"	3/4"
Hot water working pressure	bar		10	10	10	10	10
Serpentine working pressure	bar		3,5	3,5	3,5	3,5	3,5
Serpentine surface	m ²		0,62	0,91	0,91	1,28	1,28
Serpentine volume	lit		8,6	12,9	12,9	18,3	18,3
Dimensions	A	mm	70	90	90	90	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

SOLAR SYSTEM



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

- Vacuum tubes collector
- Roof support inclined
- Hot water boiler with 2 serpentines and electrical resistance
- Pump station
- Electronic controller
- Solar expansion vessel
- Solar air valve
- Anti-freeze liquid

TECHNICAL DATA

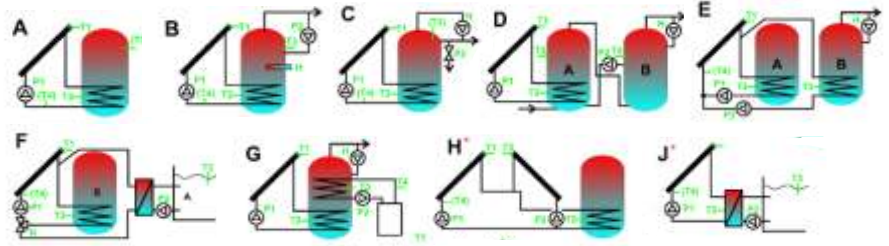
Type		SSV 150	SSV 200	SSV 300
Indicative nr. of users		2-3	3-4	4-5
Average daily consumption of hot water	lit/day	100-150	150-200	300-330
Max available quantity of water	lit	147	225	330
Boiler volume	lit	150	200	300
Boiler type		150-2S	200-2S	300-2S
Nr. of tubes		15	20	30
Collector type		CS 15	CS 20	CS 30
Expansion vessel	lit	18	24	35
Max working temperature	°C	180	180	180
Max working pressure	bar	8	8	8
Anti-freeze liquid volume	°C	10	15	20

CONTROLLER ecoSOL 301

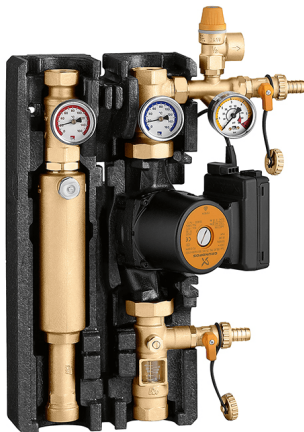


The electronic controller is modern and user-friendly, and offers a wide variety of modes and settings for a solar system. It is very easy to install, offer ergonomic design, functionality and energy savings.

- 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 STATION



Pump station includes:

- 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: 3/4"

SOLAR EXPANSION TANK



Solar expansion tank

- Interior treatment TOP PRO

Technical characteristics

Max working pressure: 8 bar

Preload pressure: 3 bar

Working temperature: -10...+110°C

Max working temperature for limited time (2 hours): +110°C

Connections: 18 lit - 3/4" / 24-35 lit - 1"



Heat Pumps

Air to water heat pumps

ELECTRICITY

Efficient, sustainable, and versatile—heat pumps are revolutionizing the way we heat and cool our spaces. Designed to provide year-round comfort, they harness ambient air temperatures to deliver energy-efficient heating and cooling solutions.

Our range of heat pumps ensures optimal efficiency without compromising on comfort, cost savings, eco-friendly performance and advanced installation control.

MASTER

inverter monoblock heat pump 6-26 kW



MASTER is a high efficiency reversible air to water heat pump. It is a fully integrated unit, where the indoor and outdoor units are combined as one module.

This unit does not require refrigerant piping work since the monoblock outdoor unit is connected exclusively to water piping.

It is equipped with DC inverter compressor, DC brushless fan motor, and hydronic kit with DC inverter circulator. The inverter technology together with the effective modulating power ensure very high efficiency. These features ensure high COP and EER.

All models have function of heating and cooling, can produce domestic hot water, are WiFi ready and can be controlled remotely.

It is available in two versions: MASTER with R32 refrigerant, and MASTER PLUS with R290 refrigerant.



R32 / R290 refrigerant



Axial fan with speed inverter



Twin-rotary Mitsubishi compressor



Installation and PV control



Domestic hot water production



Low noise operation

MAIN FEATURES

- All units can work in three different modes: heating, cooling and DHW, with specific programs that enhance the performance at all conditions, with ambient temperature curve management
- Energy class A+++, cutting edge technology and modern design
- Wide range of working temperature: ambient temperature -25...+45°C, and water output temperature 10...75°C
- All models series are WiFi ready and can be controlled remotely by smartphone application
- Twin-rotary DC **Mitsubishi** Inverter compressor and axial fan with DC inverter motor
- EEV (Electronic expansion valve) technology for precise control of the refrigeration cycle
- Source exchanger: Optimized circuit with blue fin coil and copper pipes
- Brazed heat exchanger for the hydraulic circuit with reduced pressure drop on the water side
- Refrigerant circuit: The circuit is made with copper pipes and includes: condensing control, electronic expansion valve (EEV), reversing valve for heating/cooling, high/low pressure switch, separator and liquid receiver, drainage valve, high and low pressure transducers, discharge/suction/coiling temperature sensor
- Integral hydraulic system: pump with high efficiency brushless circulator, expansion tank, water flow sensor, air valve, pressure relief valve, water inlet/outlet temperature sensor
- Intuitive controller with various functions for the complete hydraulic installation: buffer, HUW boiler, solar thermal panel, up to two diverting valves, one mixing valve, and two installation pumps
- Energy state (smart grid), connection with the PV installation, energy information monitoring

REFRIGERANT

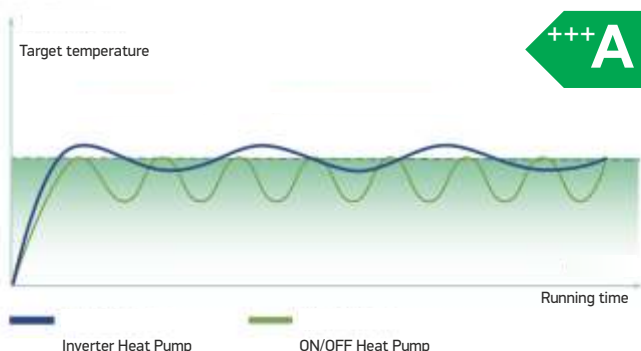


The MASTER heat pump is using R32 refrigerant, which has 70% lower GWP (global warming potential) compared to older types of refrigerant, and can reach output temperature up to 60°C.

The new range of heat pumps is available with R290 refrigerant, which is pure propane and has a very low environmental impact and can reach temperature up to 75°C.

R290 is the preferred hydrocarbon alternative of the Environmental Protection Agency (EPA).

HIGH EFFICIENCY



The heat pump is in compliance with ErP directives and attains the A+++ energy class.

Due to the full inverter technology of the compressor and fan, it can modulate to low frequency when set temperature is reached in order to maintain minimum heat losses of the house.

This ensures shorter heating time, smaller temperature fluctuations, and significant energy savings.

COMPONENTS



MITSUBISHI COMPRESSOR

The compressor is the heart of the heat pump for efficiency and reliability. It ensures stable heating capacity and reduced noise.

All MASTER heat pumps come with DC inverter twin-rotary **Mitsubishi** compressor.

EVI TECHNOLOGY

EVI stands for “Enhanced Vapor Injection” and is a technology used to achieve higher performance at lower temperatures as low as -25°C.

EVI -25°C



PLATE HEAT EXCHANGER

The plate heat exchanger is carefully selected to increase heat transfer efficiency, low pressure drop, and ensure higher COP.



DC BRUSHLESS FAN

The fan motor is DC brushless to ensure improved efficiency.

Also, the fan blades and the air grill are specially designed to ensure as low noise as possible.



EEV EXPANSION VALVE

The expansion valve is with electric control (EEV). This feature, combined with precision measuring of refrigerant temperature and pressure, ensure optimum efficiency.



DC INVERTER PUMP

The heat pump comes with reliable DC inverter pump, to ensure reliability and comfortable heating experience.

CONTROLLER



The heat pump is equipped with a 5 inch colour touch screen, which is very intuitive and user-friendly, and has shows the power consumption daily, monthly and yearly.

- Premium design 5 inch colour LCD display
- Capacitive touch button
- Information with simple graphic icon and text
- Energy consumption and heat production monitoring daily, monthly, yearly
- Integrated control of a hot water boiler / buffer
- Room thermostat connection for heating / cooling
- Integrated weekly programmer
- WiFi ready and control through smartphone application
- Cascade of 2 heat pumps with standard controller, up to 8 heat pumps with a cascade module (optional)
- Control of the complete heating installation with 7 sensors: external temperature, buffer tank, DHW tank (low and high), internal room sensor, solar circuit, heating circuit.

SG READY AND SMART GRID

The heat pump can receive signals about the power source and switch energy usage. When the electricity price is high, the heat pump runs as energy-saving as possible, when the price is low, it will use as much electricity as possible.

It can also be connected with the solar photovoltaic installation, and adjust its power consumption to the energy production.



REMOTE CONTROL AND CLOUD PLATFORM

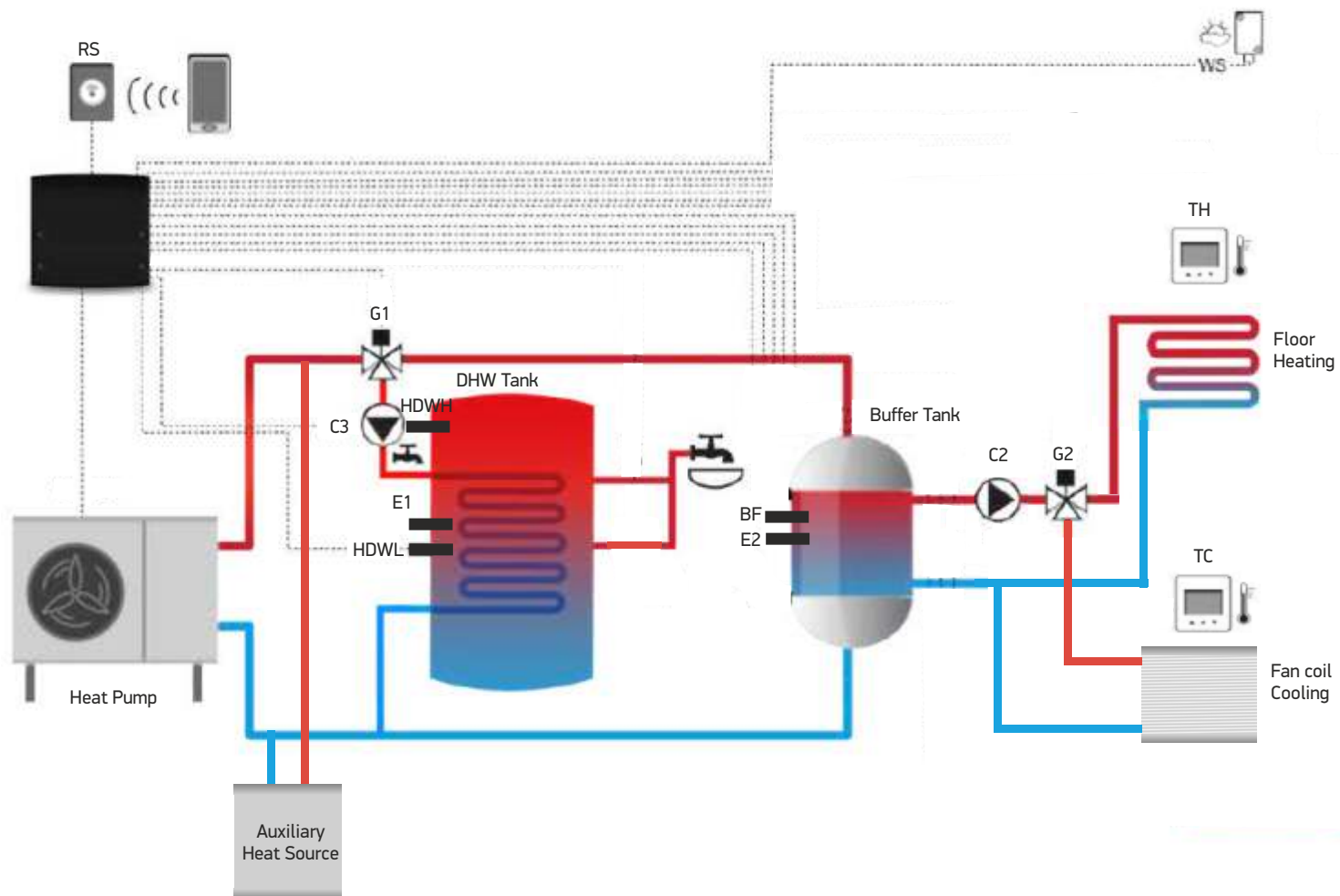


The heat pump has integrated Wi-Fi function and mobile application, so that the user can control the heat pump anywhere and anytime.

The application has highly integrated control functions, is easy to operate and transforms your heating installation into a truly smart operating system.

Additionally, the producer can use the smart data platform to provide remote product inspection, and even software update, offering prompt assistance.

INSTALLATION SCHEME

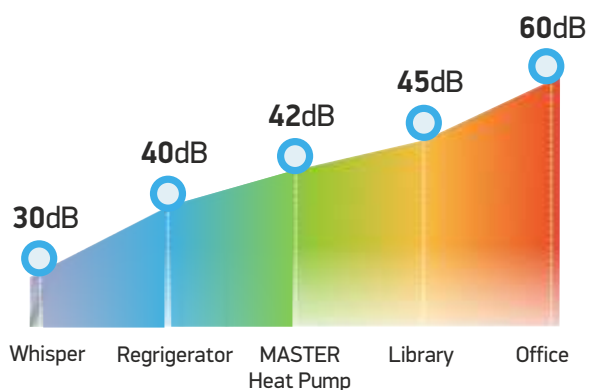


Legend:

G1: 3-way diverting valve for heating/DHW
 G2: 3-way diverting valve for heating/cooling
 C2: Internal installation pump
 C3: DHW pump
 TH: Heating room thermostat
 TC: Cooling room thermostat
 BF: Buffer sensor

HDWH: DHW sensor (high)
 HDWL: DHW sensor (low)
 E1: DHW electric heater
 E2: Buffer electric heater
 WS: External temperature sensor
 RS: Room temperature sensor

SUPER LOW NOISE



The heat pump is equipped with super quiet full DC inverter compressor and full DC inverter fan motor system to ensure super low noise. The sound levels start as low as 42dB(A), making itself the quietest system in our DC inverter lineup.

Meanwhile, it could provide a special silent mode which could be even more silent for the user and the neighbours.

TECHNICAL DATA MASTER (R32)

Type			MASTER 60	MASTER 90	MASTER 120	MASTER 160	MASTER 180	MASTER 120T	MASTER 160T	MASTER 180T	MASTER 260T
Heating capacity range		kW	1,5-7	2-10	3-13	4-18	4-20	3-13	4-18	4-20	5-28
A 7°C W 30/35°C	Heating capacity	kW	6,2	9,2	12,1	16,1	18,1	12,1	16,1	18,1	26,1
	Power input	kW	1,34	1,96	2,63	3,58	4,00	2,62	3,58	3,98	5,79
	Current	A	5,82	8,52	11,44	15,56	17,39	4,42	6,04	6,72	9,77
	COP	W/W	4,63	4,69	4,60	4,50	4,53	4,62	4,50	4,55	4,51
A 7°C W 47/55°C	Heating capacity	kW	6,2	9,1	11,0	16,1	17,1	11,1	16,0	17,1	25,3
	Power input	kW	2,2	3,14	4,05	5,37	5,90	4,05	5,33	5,90	7,93
	COP	W/W	2,82	2,90	2,72	3,00	2,90	2,74	3,00	2,90	3,18
A 35°C W 23/18°C	Cooling capacity	kW	6,0	9,1	11,0	15,1	17,2	11,0	15,1	17,2	23,9
	Power input	kW	1,57	2,36	2,88	3,96	4,51	2,86	3,96	4,50	6,26
	EER	W/W	3,82	3,85	3,82	3,81	3,81	3,85	3,81	3,82	3,82
A 35°C W 12/7°C	Cooling capacity	kW	6,2	8,5	10,7	14,5	16,3	10,7	14,5	16,3	22,2
	Power input	kW	2,10	2,85	3,63	4,78	5,78	3,58	4,78	5,75	7,49
	EER	W/W	2,95	2,98	2,95	3,03	2,81	2,99	3,03	2,83	2,97
Rated water flow		m³/h	1,1	1,6	2,1	2,8	3,1	2,1	2,8	3,1	4,5
Rated power supply		V/Hz	~220-240/50					~380-415/50			
Max input power		kW	2,2	3,5	4,7	6,0	6,6	4,7	6,5	6,5	10,0
Max input current		A	12	15	20	26	28	8	11	11	17
Refrigerant		-	R32								
Air flow		m³/h	3.500	4.000	4.500	6.500	8.000	4.500	6.500	8.000	9.000
Waterproof grade		-	IPX4								
Noise level (1m/5m)		dB	51/37	53/39	54/40	56/42	56/42	54/40	56/42	56/42	58/44
Max water outlet temp.		°C	60								
Water connections		inch	1"	1"	1"	1"	1"	1"	1"	1"	1 ½"
Drainage valve		inch	½"	½"	½"	½"	½"	½"	½"	½"	½"
Water pressure drop		kPa	22	40	50	50	50	50	50	50	50
Min/Max water pressure		bar	0,5/3,0								
Fuse (PCB)		A	15								
Min/Max ext. temp. (heating)		°C	-20/45								
Min/Max ext. temp. (cooling)		°C	15/45								
Dimensions	Length	mm	976	1106	11065	1106	1106	1106	1106	1106	1106
	Width		450	450	450	450	450	450	450	450	450
	Height		688	688	835	1135	1603	835	1135	1603	1603
Weight (empty)		kg	65	75	85	100	135	75	100	135	180

TECHNICAL DATA MASTER PLUS (R290)

Type			MASTER PLUS 60	MASTER PLUS 90	MASTER PLUS 120	MASTER PLUS 160	MASTER PLUS 120T	MASTER PLUS 160T
Heating capacity range		kW	1,5-7	2-10	3-13	4-18	3-13	4-18
A 7°C W 30/35°C	Heating capacity	kW	6,2	9,2	12,1	16,2	12,1	16,2
	Power input	kW	1,36	2,02	2,67	3,58	2,66	3,56
	Current	A	5,91	8,83	11,43	15,26	4,41	5,89
	COP	W/W	4,56	4,55	4,53	4,52	4,55	4,55
A 7°C W 40/45°C	Heating capacity	kW	6,1	9,1	12,0	16,0	12,0	16,0
	Power input	kW	1,71	2,51	3,35	5,02	3,30	4,98
	COP	W/W	3,58	3,62	3,59	3,19	3,65	3,22
A 7°C W 47/55°C	Heating capacity	kW	6,1	9,1	12,0	16,0	12,0	16,0
	Power input	kW	2,07	3,06	4,15	5,56	4,05	5,43
	COP	W/W	2,95	2,97	2,89	2,90	2,99	2,97
A 35°C W 23/18°C	Cooling capacity	kW	6,3	9,1	11,3	15,1	11,3	15,2
	Power input	kW	1,62	2,33	2,95	3,96	2,91	3,98
	EER	W/W	3,89	3,87	3,83	3,81	3,88	3,82
A 35°C W 12/7°C	Cooling capacity	kW	6,2	8,6	10,6	15,1	10,6	15,1
	Power input	kW	2,1	2,92	3,58	5,26	3,58	5,26
	EER	W/W	2,95	2,95	2,96	2,86	2,96	2,86
Rated water flow		m³/h	1,1	1,6	2,1	2,8	2,1	2,8
Rated power supply		V/Hz	~220-240/50				~380-415/50	
Max input power		kW	2,2	3,5	4,7	6,0	4,7	6,5
Max input current		A	12	15	20	28	8	11
Refrigerant		-	R290					
Air flow		m³/h	3.500	4.000	4.500	8.000	4.500	8.000
Waterproof grade		-	IPX4					
Noise level (1m/5m)		dB	51/37	53/39	54/40	56/42	54/40	56/42
Max water outlet temp.		°C	75					
Water connections		inch	1"	1"	1"	1"	1"	1"
Drainage valve		inch	½"	½"	½"	½"	½"	½"
Water pressure drop		kPa	22	40	50	50	50	50
Min/Max water pressure		bar	0,5/3,0					
Fuse (PCB)		A	15					
Min/Max ext. temp. (heating)		°C	-25/45					
Min/Max ext. temp. (cooling)		°C	15/45					
Dimensions	Length	mm	976	1106	1106	1106	1106	1106
	Width		450	450	450	450	450	450
	Height		688	688	835	1603	835	1603
Weight (empty)		kg	70	80	90	160	90	160



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 variety of fuels according to the needs of each application.

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

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



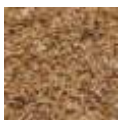
agropellets



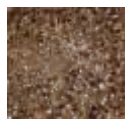
cereals



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.

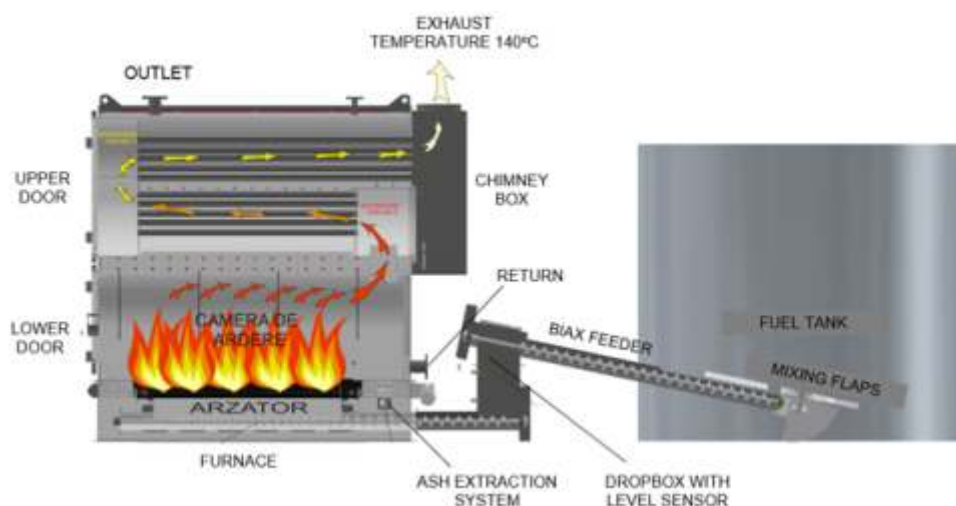
The boiler construction is 3-pass, one pass in the fire chamber and two passes in individual tube series. The flame is developed in the fire chamber, where the heat transfer is mainly through radiation, and then the exhaust gases are guided through the tubed heat exchanger, where the heat transfer is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

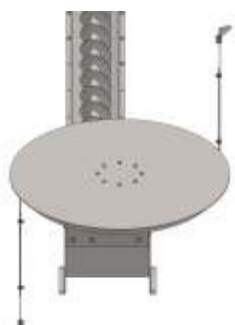


The feeding system is able to transport all kinds of biomass with diameter up to 70mm, including sawdust and wood chips up to G50, W 25% (ONORM 7133).

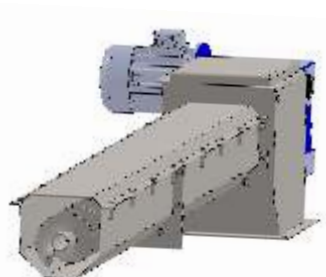
The feeding system is bi-ax, with two levels which are controlled by individual motors. Between the two levels there is fuel level sensor, which protects against overloading and automatically recognizes lack of fuel.

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.



Mixing mechanism



Special shape feeder channel

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

BOILER CONTROLLER


















The boiler is equipped with an 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 command to an auxiliary boiler. A room thermostat can be also connected to the controller.

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

	Fan		Weather control		Igniter
	Feeder		Buffer control		Fumes sensor
	Exhaust fan		Ash extractor		Room thermostat
	Heating pump		Fuel level recognition		Alarm signals
	Hot water pump		Summer/Winter mode		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 accumulated in a big capacity ash box.



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.



Ash multicyclone

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



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.



Tubes pneumatic cleaning

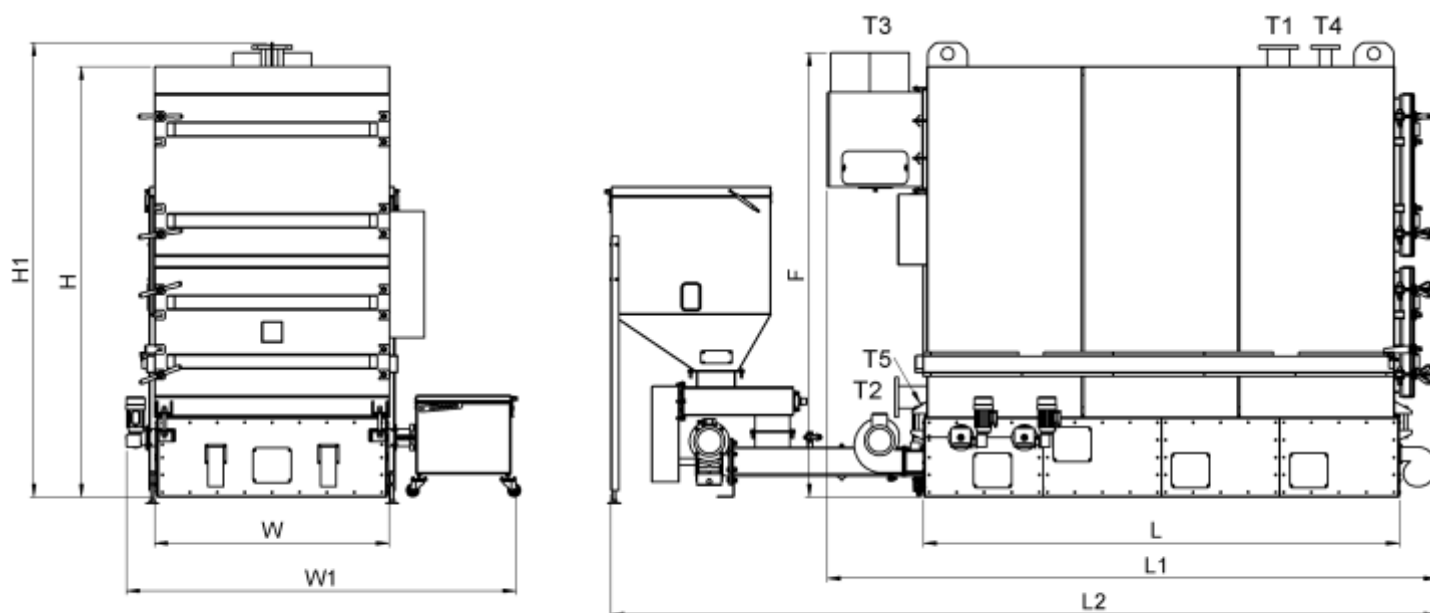
Special air nozzles are mounted on the upper door, equipped with quick-action air valves and compressed air tank with pressure switch and safety valve.



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.

FUELS



pellet

AISI 304

Refractory steel heat exchanger



High static pressure



Automatic ignition and flame supervision



Automatic cleaning by compressed air



Low noise operation



Safety thermostat

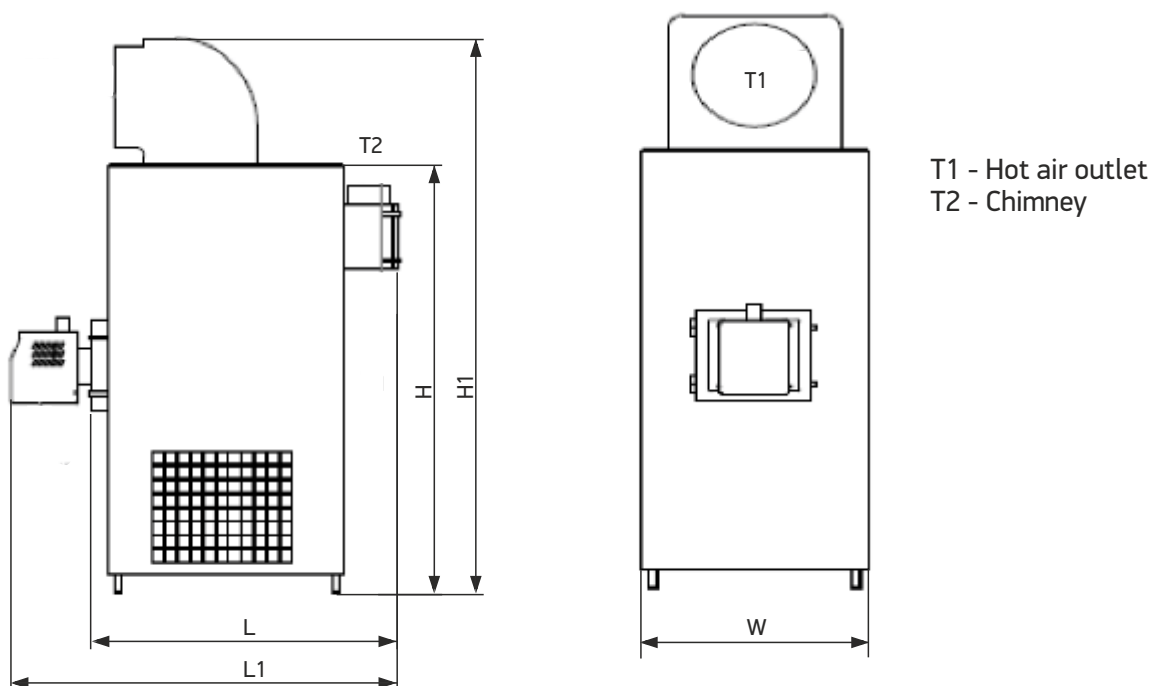
MAIN FEATURES

- 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
	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



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

W

hot air generator for solid fuel 35-100 kW



Thermostahl W 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 generator is equipped with combustion fan and centrifugal hot air ventilator. The control panel regulates the combustion fan speed and the air outlet temperature.

The generators can work on wood, briquettes, or carbon. Additionally, an MPB pellet burner can be installed on the middle door.

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

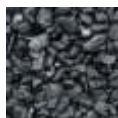
FUELS



wood



briquettes



carbon

AISI 304

Refractory steel heat exchanger



High static pressure



Low noise operation



Safety thermostat

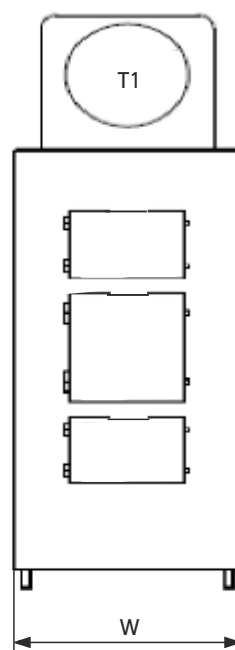
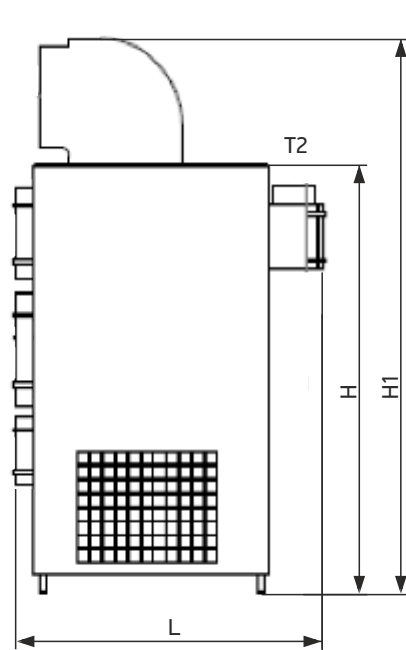
MAIN FEATURES

- Stainless steel combustion chamber with aerodynamic shape
- High temperature resistant heat exchanger
- Cabinet is made by galvanized sheet
- Combustion fan and hot air ventilator individual control
- Overheating thermostat
- Fan thermostat
- Electric board
- Possibility to instal a pellet burner on the upper door
- 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
W 35	35	120	3.700	200	45	81,5	0,45	230/50	240
W 60	60	120	4.500	200	48	85,0	0,62	230/50	300
W 100	100	120	6.950	200	50	88,5	1,17	230/50 400/50	500

DIMENSIONS



T1 - Hot air outlet
T2 - Chimney

Type	L	H	H1	W	T1	T2
mm						
W 35	750	1575	1925	575	300	150
W 60	860	1660	2110	695	400	180
W 100	1000	1870	2300	750	500	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.

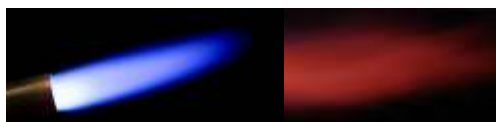
The hot air generator has a special 3-pass design, with robust, welded construction of the air chamber. This unique construction offers a constant debit of hot air with maximum efficiency, assuring fast heating and energy savings. All surfaces which come in contact with fire are made for special refractory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

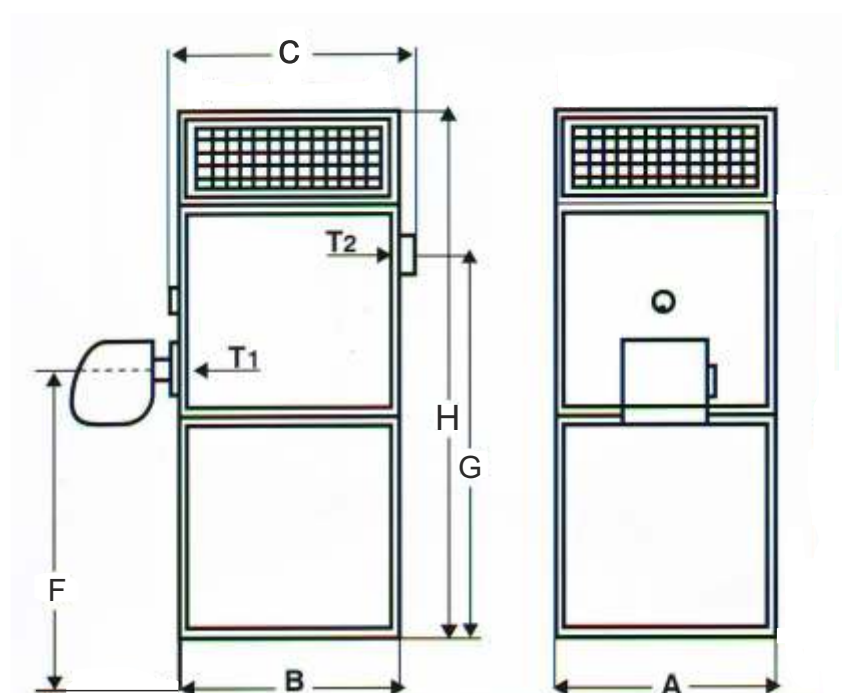
MAIN FEATURES

- 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	°C	m³/h	Pa	K	dB	kW	V/Hz	kg
AR 40	40.000	47	120	2.700	200	42	81,5	0,43	230/50	410
AR 80	80.000	93	120	4.500	200	42	85,0	0,65	230/50	480
AR 120	120.000	140	120	8.000	200	42	88,5	1,30	400/50	560
AR 150	150.000	174	120	11.900	300	42	90,0	2,20	400/50	650
AR 190	190.000	220	120	11.900	300	42	90,0	2,20	400/50	860

DIMENSIONS



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



THERMOSTAHL ROMANIA

57-59 Drumul Osiei, sector 6

Bucharest, Romania 062395

Tel: +4 021 352 5522

www.thermostahl.ro

info@thermostahl.ro

Authorized distributor

www.thermostahl.ro