Kalor

Automatic Wood Pellet Boilers

2017


Kalor
Pellet boilers with supreme efficiency
High efficiency boilers powered by wood pellet

Kalor wood pellet boilers are distributed in Ireland by Wood Pellet Stoves.ie through a nationwide network of Authorised Dealers. Go to www.woodpelletstoves.ie for more information and a full Dealer Map.

woodpelletstoves.ie

Kalor produces a complete range of extremely highly efficient pellet-fuelled stoves: stoves for heating rooms only, boiler stoves for heating water, compact boilers and fully automatic boilers. The various production lines are diversified by design but are available in a number of powers so that they are efficient in the most diverse living settings.

Product Innovation

Innovative companies often take something that history has handed down to them and develop it in a completely new way. Our company starts from the most entirely Venetian wood-burning stove tradition but develops it in keeping with the most modern productive techniques: laser cutting combined with jack rafter cutting, the series bending of the metallic components, the robotised welding.

A Kalor stove: the best, nothing less.


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Designing efficiency: an art

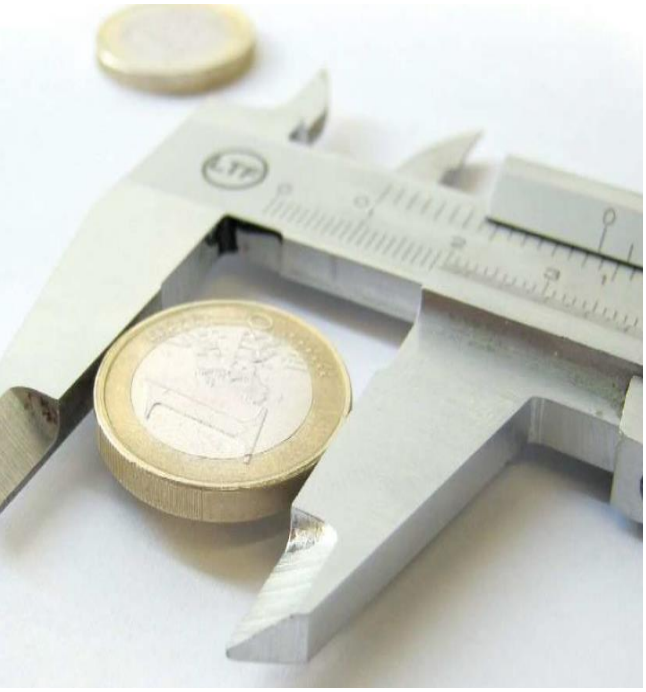
Designing a pellet stove should, as its main objective, guarantee efficiency and sustainability. Our designs must produce solutions capable of providing an innovative integration of the plant and energy aspects of the building with the architectural design choices. Our design skills reward us by achieving commendable heat efficiency but we are, in general, pleased to think that our heat system is able to interact with the most modern environmentally-friendly systems integrated with photovoltaic and solar panels. Thanks to their efficiency and effectiveness our stoves contribute to ensuring your home is classified in the energy class A band. The stove: not only is it the most economic heat source, it is also the source of energy requalification of your home.

Certifications and Approvals:

TÜV Rheinland® Precisely Right	EN 303-5	15a B-VG	CE	Bundesamt für Wirtschaft und Ausfuhrkontrolle BAFA GEFÖRDERT	seai
European certification for the quality of products	European standard for heating appliances	Certification for environmental safety	CE Mark	German institution for the development of eco energy	Ireland's energy agency – approval pending

TUV helps us to fully satisfy the customer by increasing the competitive strength of our product markets. Why? TUV is a neutral body for the certification of services, inspection and testing. It helps us to adapt the final product to ensure that those standards, over time, represent a constant efficiency and reliability. Kalor boilers are among the best performing in the international market. All of our product lines have passed the most stringent & rigorous TUV quality testing and have exceeded the levels of efficiency.

Don't take our word for it; TUV has independently confirmed it!



Wood pellet - a source of savings

Wood and pellets are fuels that lend themselves to savings. When choosing between the two, we bear in mind that the heat content sways in favour of wood pellet.

Heat content wood 4.4kW/kg (18 months of seasoning)
Heating power of pellet 5.3 kW/kg

The density of wood pellet is 650kg/m3: approx. twice the density of wood. 2kg of pellet is sufficient to replace 1 litre of heating oil. Therefore, one cubic metre of pellets responds, in terms of energy, into around 320 litres of heating oil.

The water content of pellet is equal to 8% of its weight. Wood has a water content of 30- 40% of its weight. Pellet, therefore, does not need to be seasoned to obtain a sufficiently suitable heat yield.

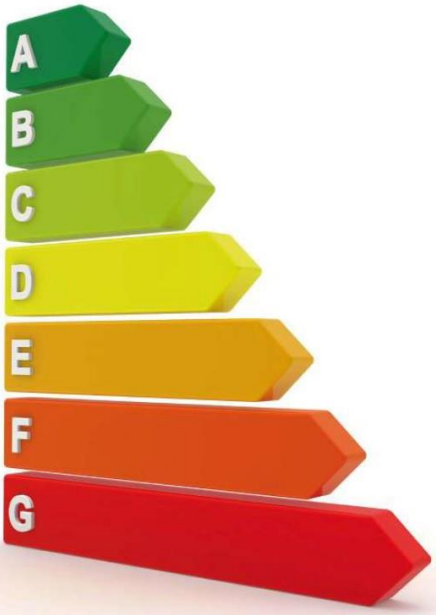
Advantages over other fuels include: increased heat yield, reduced stocking dimensions, the pellet needs half the stocking space needed for wood, lower price and highly convenient, restocking is simple and manageable.

Heating cost comparison

If one was to compare the hourly heating costs between various fuels currently available on the market, we would find that wood pellet is one of the cheapest fuel options available in the world today. In fact, only mains fed gas can beat or compete with the cost of wood pellet as a means of heating fuel.

Figures show that wood pellet is less expensive than almost all other fuel types including: heating oil, bulk LPG, timber, coal, peat briquettes and peat sods (turf).

These calculations and assumptions are compiled using average costs of fuels and average appliance efficiencies across a wide and diverse range of fuel types and appliances.



Incentives towards greater efficiency

Across Europe, the building sector is responsible for around a third of total energy consumption. There is therefore, big pressure to increase the level of energy efficiency, relating in particular to the expenses sustained for the reduction of the heating energy requirement.

- Cash grants are available for the installation of energy efficient measures that will reduce energy consumption of home or business
- Energy Credits are traded for cash by the larger energy companies who are obliged to do their bit to neutralise the huge impact their business has on our environment
- Tax incentives are available to homeowners and business for the capital investment required for the installation of energy saving measures such as wood pellet boilers and stoves

Kalor stoves and boilers are an ideal way to invest in reducing energy consumption and Co2 emissions.

Wood as an energy source:

- **Renewable:** Using fossil fuels (coal, oil, gas, peat) means very quickly using energy sources that take millions of years to renew.
- **Neutral Co2:** The quantity of Co2 released with combustion is equal to that taken from the atmosphere during the plant's growth phase (through photosynthesis) and is equal to what would be emitted over the natural course of the decomposition of our forests. By respecting the natural equilibrium, wood also contributes to soothe climate changes.
- **Clean:** The extremely high efficiency Kalor wood pellet stoves are able to reduce pollutant emissions. The pellet stoves are also unique for low fume emissions and a 25% reduction in Co2 produced, when compared to other fuels.
- **Safe:** Pellet combustion does not provide any notable contribution to the greenhouse effect, as the carbon released through burning pellet comes from the same atmosphere & not the subsoil.
- **Easily disposable:** The combustion residues are limited and are also natural and act as an effective lawn fertiliser, thus avoiding all of the problems related to disposal.
- **Non-toxic:** There are no binding chemical additives. Pellet heating does not require gas tubes or tanks that can constitute a danger and the pellet stoves do not release carbon monoxide, an awful gas that is odourless, tasteless, colourless and, unfortunately, highly lethal. Moreover, compared to wood, pellet offers an energy that is:
  - **Decentralised & easily stored:** Pellet is packaged in 10-15 kg bags, clean and easy to transport.
  - **Economic:** Pellet has a more stable price and is not connected to the stock market or the geopolitical events (war, oil crisis etc.).
  - **Convenient:** Pellet stoves and boilers are extremely convenient thanks to the automatic functioning.

Wood is one of the most precious materials offered by nature. Since ancient times it was used by man not only for heat, but also for the construction of objects and utensils. For heating purposes, wood must meet certain requirements such as correct seasoning or drying, that is, that the wood must have the right degree of humidity around 10-25%. Therefore it is important to consider the time of the year for harvesting, as this should coincide with the winter. Correct seasoning enables the provision of excellent performance and low emissions.

Wood is divided into soft wood and hard wood, according to the weight in kg of a cubic metre of material (density). The soft wood that weighs about 300-350 kg / m3 is that of spruce, pine, poplar, chestnut, willow; whilst hardwood weighs about 350-400 kg / m3 and it is that of elm, oak, beech and ash. Soft wood generally lights easily, wears out quickly and develops a long flame and is used in furnaces that require a long series of flame. The hardwood is more compact, the combustion is slower with short flames, it lasts longer and is more suitable for domestic heating. Not all woods are the same and the characteristics about the drying time and calorific value vary from tree to tree. The calorific value (heat content of the fuel) depends on the moisture content and density. The best woods are generally considered to be oak, ash, beech, maple and fruit trees apart from the cherry tree. Generally, softwoods should be avoided where hardwood is readily available.

Wood is the only source of energy present in nature and is truly renewable. If properly burned, it emits only the same amount of carbon dioxide absorbed by the plant to live and grow. The burning of wood is therefore perfectly in balance with the environment. Wood has several advantages as an alternative energy source because it is environmentally friendly, is a renewable energy source and is generally available locally.

Wood pellet appliance evolution

The use of wood pellets as a heat source was, over time, extended to many new applications. From the simple air stove (room heater) used to heat one or two rooms of the house, the market demand has gradually moved towards systems that can be integrated with pre-existing domestic electrical installations and central heating systems. Of course, they are equally suitable for the new build and can be designed into almost any heating system.

The choice of the wood pellet boiler is generally dictated by two main factors.

1. That the pellet boiler is able to replace or support the traditional boiler without requiring any modification to the existing plumbing
2. The possibility for the pellet-fired boiler to integrate easily and effectively with other energy sources (eg. solar thermal systems for domestic hot water production), maximizing the yield and supporting big cost savings (up to 60% savings heating costs).

It is obviously also very important that the pellet boiler will be sufficient to effectively provide heat to a home or business and that advanced controls are either built-in or can be connected to, in order to easily regulate the production of heat, even if coming from various energy sources, in response to the characteristics of the building and the habits of the end user.

In modern homes and business, advanced heating controls have become a basic standard and any proposed heating appliance must be capable of integrating with these controls. In the event of controls not being at an advanced level, then it is very desirable that the heating appliance itself can provide this control.

Thankfully, Kalor wood pellet boilers tick all of these boxes and are currently at the forefront of this market in terms of boiler efficiency, easy integration and advanced controls.

The automatic boiler is an innovative product, made with high quality components according to the most modern production techniques and complies with European legislation 303-5 for easy connection to central heating systems.

The boiler is provided with a special pellet burner, capable of automatic ignition and self-cleaning. Automatic cleaning allows the boiler to operate effectively, even with poor quality pellet fuel.

The automatic cleaning of the heat exchanger tubes provides an excellent heat transfer as well as a high and consistent level of efficiency in the boiler.

The digital control unit monitors the level of wood pellets in the built-in hopper. The hopper is provided as standard.

The boiler is delivered in pre-assembled parts for easy transportation and delivery into the boiler plant room at the home or business. Final assembly of the boiler is carried out within the plant room.

The boiler is equipped with a full suite of modern accessories to ensure safety. The control panel, the electric ignition element, the safety thermostat, the fan, the self-cleaning mechanism of the burner, the cleaning mechanism of the heat exchanger tubes, the auger and associated motor, the energy efficient pump, the return temperatures riser kit, thermostats and many other components are all standard with a Kalor Automatic Boiler.

Automatic Cleaning:

The Kalor Automatic pellet boilers guarantee high performance and easy use thanks to the automatic cleaning of the burnpot and the heat exchanger. All the user needs to do is occasionally remove the ashes from the trays beneath the boiler. This could be as infrequent as once per heating season!

The noise of the boiler, the tank capacity (up to 221 kg) and the advanced programming through an intuitive touch screen display give to the automatic boiler an excellent level of quality and an air of class. The wide range of qualities make Kalor Automatic wood pellet boiler models the best available on the market.

woodpelletstoves.ie

Wood Pellet Stoves.ie is a dedicated wood pellet stove and boiler company who has a nationwide network of Authorised Dealers and Installers.

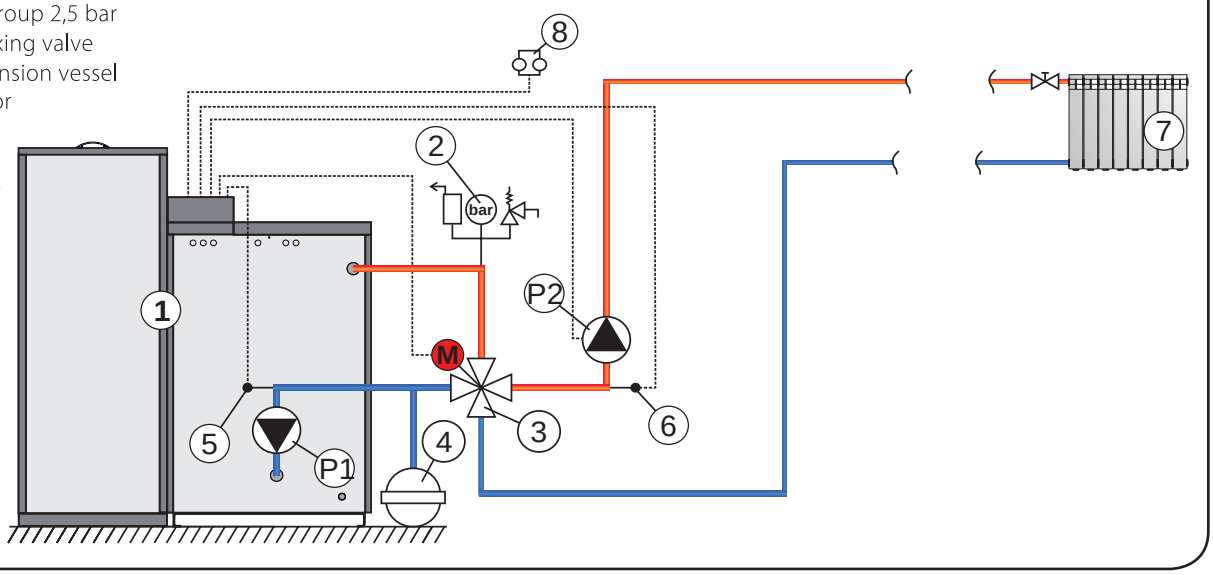
Each Authorised Dealer and Installer is specially trained by us for the provision, servicing and maintenance of all Kalor wood pellet stoves and boilers. This gives all customers a local aspect and a strong confidence in any appliance that they purchase from us.

Visit our website www.woodpelletstoves.ie today to find more information about models, technical data sheets and a details of all our Authorised Dealers.

Volume **m³ 300**

Nominal heat output	kW	Kcal/h	12,3 - 3,6
Water amount in boiler		lt	78
Boiler class			5

1 - Boiler PelTec
2 - Air self-venting group 2,5 bar
3 - Motor 4-ways mixing valve
4 - Closed type expansion vessel
5 - Return flow sensor
6 - Flow sensor
7 - Heating circuit
8 - Room thermostat

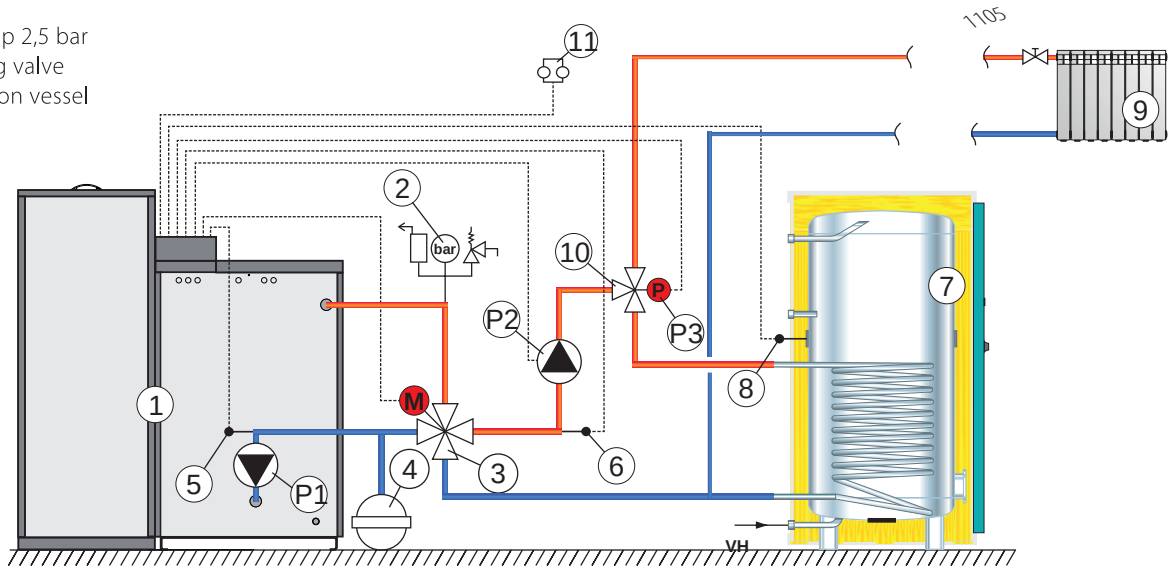


Automatica Mod. 12

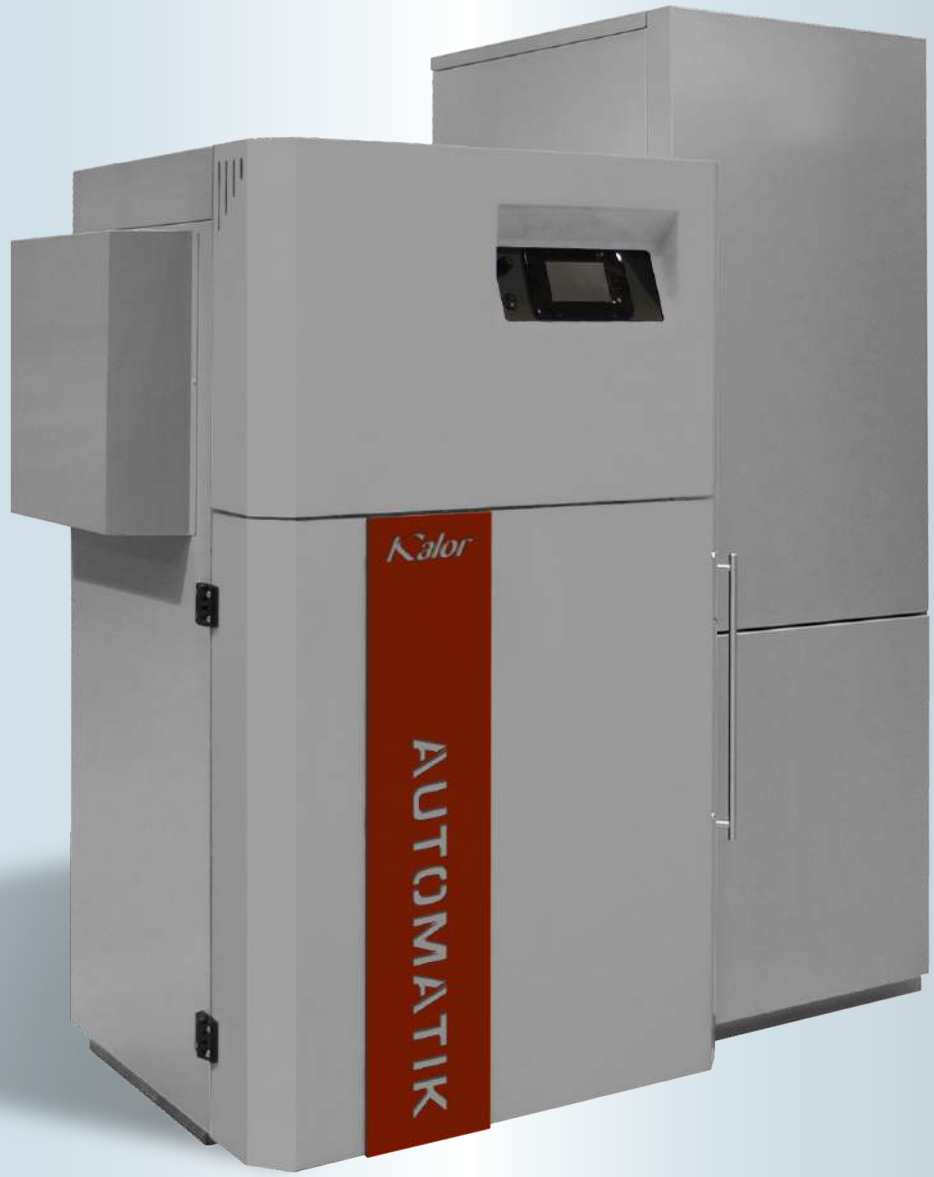
Volume **m³ 450**

Nominal heat output	kW	Kcal/h	18 - 5,4
Water amount in boiler		lt	76
Boiler class			5

1 - Boiler PelTec
2 - Air self-venting group 2,5 bar
3 - Motor 4-ways mixing valve
4 - Closed type expansion vessel
5 - Return flow sensor
6 - Flow sensor
7 - DHW tank
8 - DHW tank sensor
9 - Heating circuit
10 - 3-way diverter valve
11 - Room thermostat

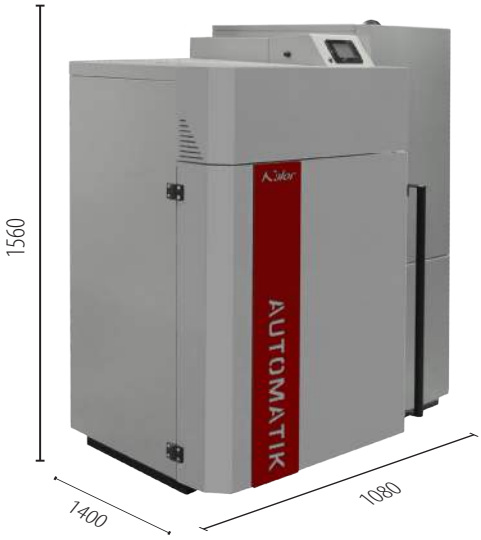


Automatica Mod. 18

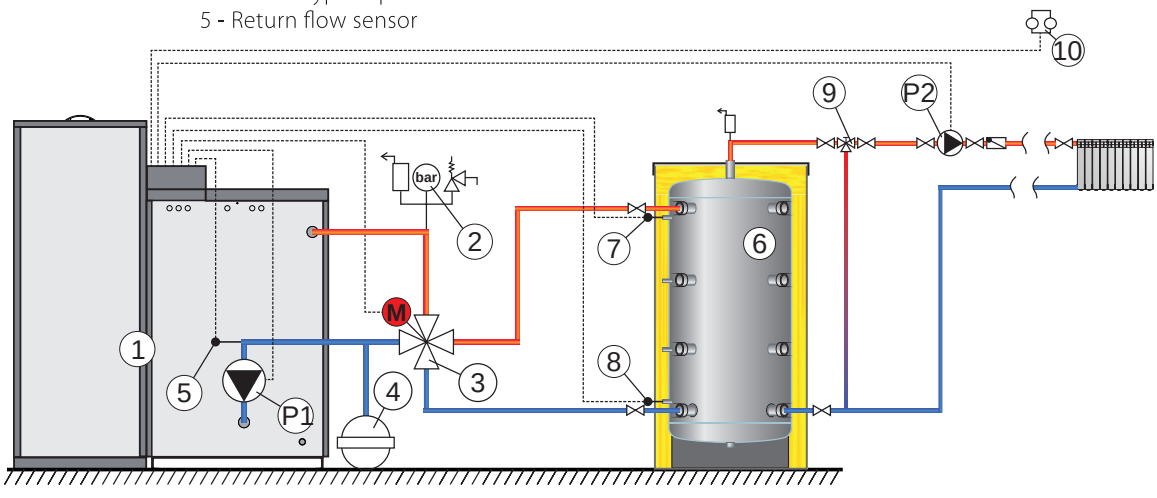


Volume **m³ 560**

Nominal heat output	kW Kcal/h	23,9 - 5,5
Water amount in boiler	lt	100
Boiler class		5



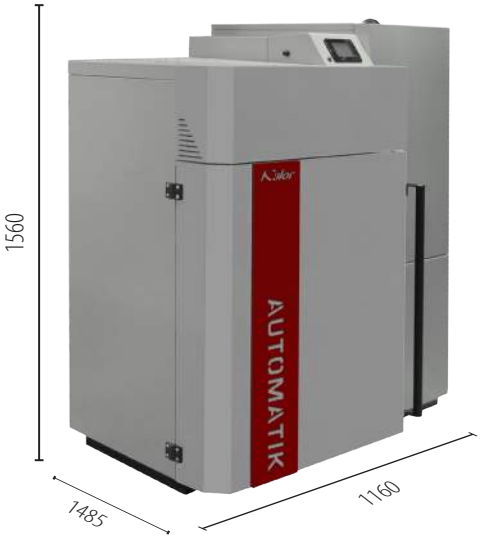
1 - Boiler PelTec
2 - Air self-venting group 2,5 bar
3 - Motor 4-ways mixing valve
4 - Closed type expansion vessel
5 - Return flow sensor



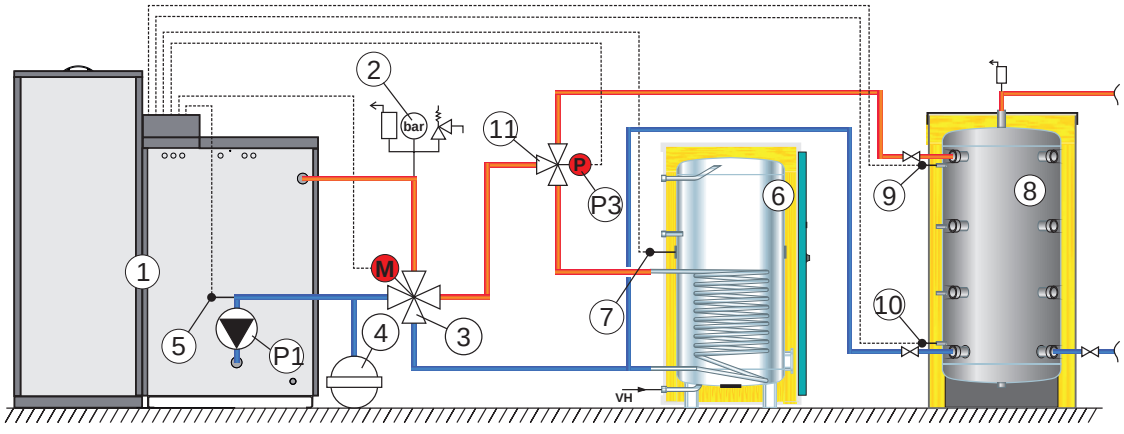
Automatica Mod. 24

Volume **m³ 750**

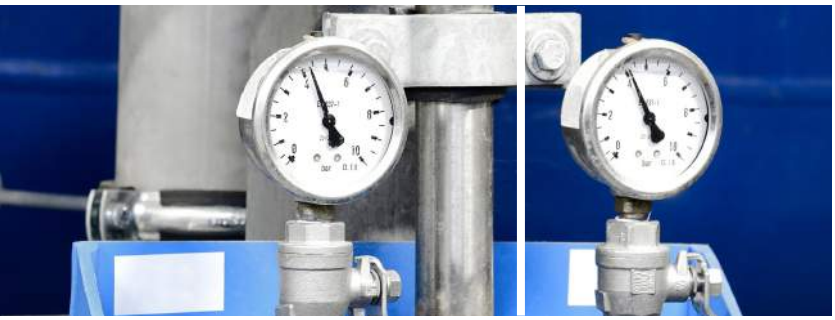
Nominal heat output	kW	Kcal/h	31 - 9,3
Water amount in boiler		lt	108
Boiler class			5



1 - Boiler PelTec
2 - Air self-venting group 2,5 bar
3 - Motor 4-ways mixing valve
4 - Closed type expansion vessel
5 - Return flow sensor
6 - DHV tank

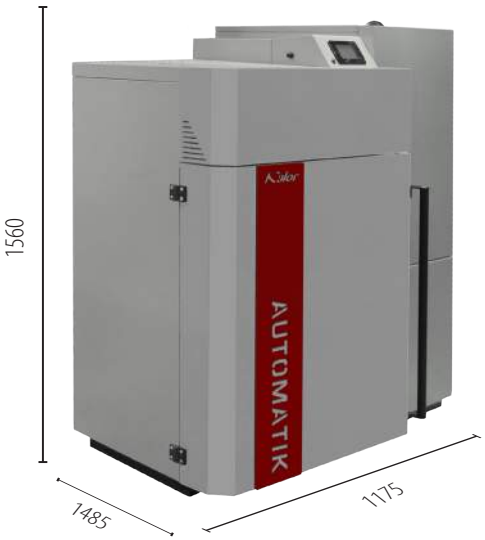


Automatica Mod. 31

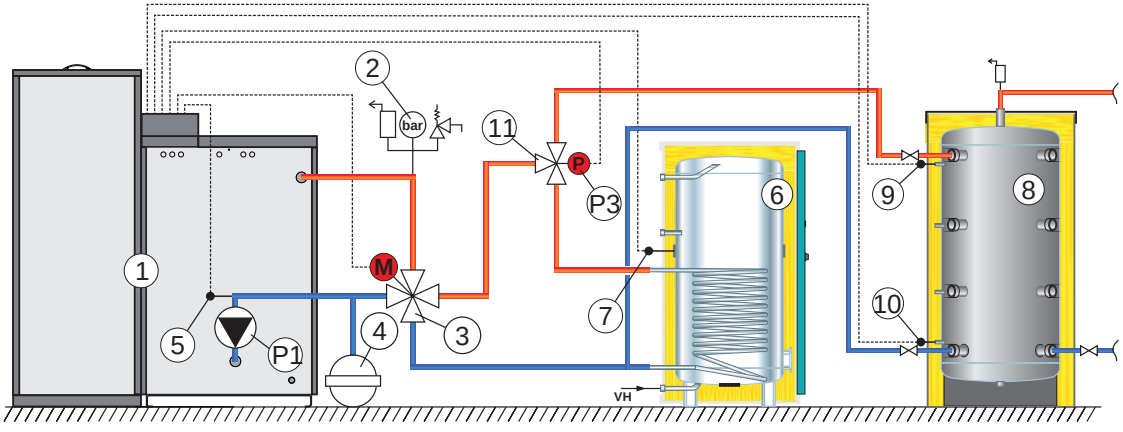


Volume **m³ 1100**

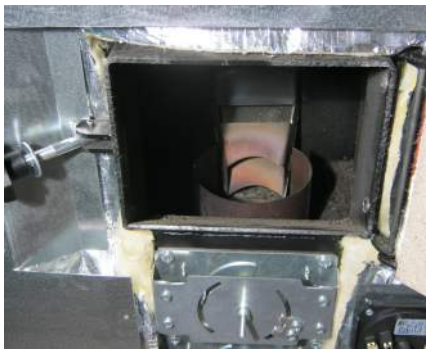
Nominal heat output	kW	Kcal/h	49,7 - 13,3
Water amount in boiler		lt	135
Boiler class			5



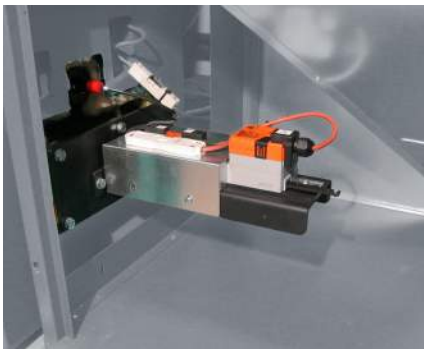
1 - Boiler PelTec
2 - Air self-venting group 2,5 bar
3 - Motor 4-ways mixing valve
4 - Closed type expansion vessel
5 - Return flow sensor
6 - DHV tank



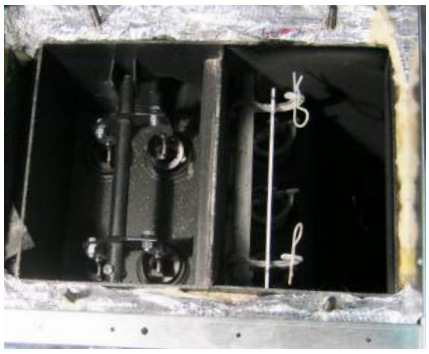
Automatica Mod. 48



Boiler with integrated burner



Automatic self-cleaning of the grill grate

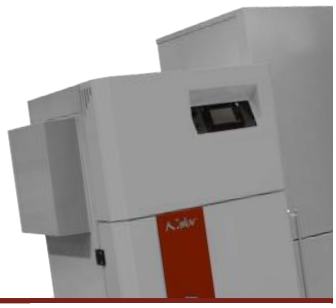


Device for automatic cleaning of the pipes for the passage of fumes

Temperature probe for auxiliary heating systems (puffer or accumulators)

Electronic panel multifunction touch screen

The ash pan from the burner



Sensor level of fuel in the tank

Flue gas temperature sensor

4-way mixing valve for perfect protection from return flows

Drawer for the ash coming from the pipes for the passage of fumes

Large tank capacity up to 221 kg of fuel

Fan for exhaust fan

Automatic Boiler		Model 12		Model 18
Global power (max - min)	kW	13,6 - 4	kW	19,9 - 5,9
Nominal heat output (max - min)	kW	12,3 - 3,6	kW	18 - 5,4
Hourly consumption (max - min)	kg - h	2,84 - 0,832	kg - h	4,25 - 1,04
Efficiency (max - min)	%	90,4 - 90,2	%	90,6 - 90,3
Class of boiler		5		5
Fireplace absorption under pressure	mbar	0,12	mbar	0,12
Quantity of water in the boiler	litri	78	litri	76
Temperature exhaust gas to the pot. thermal input	°C	120	°C	120
Exhaust gas temperature to the minimum pot. Thermal	°C	100	°C	100
Boiler heating (water) at rated power	mbar	5	mbar	9
Moisture content of the fuel (max)	%	12	%	12
Volume of the hearth	litri	0,942	litri	1,59
Size of the combustion chamber	mm	465 x 300 x 300	mm	650 x 300 x 300
Volume combustion chamber	litri	41,85	litri	58,5
Volume pellet tank	litri	340	litri	340
Volume tank ash (left-right)	litri	9,9	litri	6,5 - 9,9
Power requirements Auxiliary Q	W	1050	W	1050
Supply voltage	Volt	220	Volt	220
frequency	Hz	50	Hz	50
Dimensions (W x D x H)	mm	1105 x 1200 x 1560	mm	1105 x 1420 x 1560
weight	kg	328	kg	349
Maximum operating overpressure	Bar	2,5	Bar	2,5
Test pressure	Bar	5	Bar	5
Maximum temperature in operation	°C	90	°C	90
Flue pipe	ø mm	130	ø mm	130
Pipe flow and return	in	1"	in	1"
Exhaust-borne water	in	1/2"	in	1/2"

Model 24		Model 31		Model 48	
kW	26,5 - 6	kW	34,17 - 10,26	kW	54,5 - 14,6
kW	23,9 - 5,5	kW	31 - 10,8	kW	49,7 - 13,3
kg - h	5,49 - 1,25	kg - h	8,47 - 2,28	kg - h	11,3 - 3,03
%	90,6 - 90,3	%	90,7 - 90,6	%	91,2 - 90,7
	5		5		5
mbar	0,12	mbar	0,12	mbar	0,12
litri	100	litri	108	litri	135
°C	120	°C	120	°C	120
°C	100	°C	100	°C	100
mbar	13	mbar	10	mbar	14
%	12	%	12	%	12
litri	1,59	litri	2,56	litri	2,56
mm	650 x 300 x 300	mm	620 x 385 x 385	mm	770 x 385 x 385
litri	58,5	litri	91,9	litri	114,13
litri	340	litri	340	litri	340
litri	9,9 - 9,9	litri	13 - 19,6	litri	13 - 19,6
W	1050	W	1100	W	1100
Volt	220	Volt	220	Volt	220
Hz	50	Hz	50	Hz	50
mm	1080 x 1400 x 1560	mm	1160 x 1485 x 1560	mm	1175 x 1485 x 1560
kg	402	kg	455	kg	478
Bar	2,5	Bar	2,5	Bar	2,5
Bar	5	Bar	5	Bar	5
°C	90	°C	90	°C	90
ø mm	130	ø mm	150	ø mm	150
in	1" 1/4"	in	1" 1/4"	in	1" 1/4"
in	1/2"	in	1/2"	in	1/2"

Heating appliance running with ventilator

Required minimum accumulation next to boiler EN 303-5, point 4.2.5

Kalor

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www.woodpelletstoves.ie