ETA PE-K 70 to 220 kW







The powerful pellet boiler for companies and apartment buildings









The ETA PE-K is ideal for large apartment blocks, residential buildings, commercial operations and for small local heating networks.

Ideal for new builds and renovations

The heating requirements in large apartment blocks and industrial buildings are often very high, and so are the ongoing costs for heating and hot water - especially if you still use fossil fuels. The conversion is worth it — especially when it's as easy as with ETA. Already during the development of the ETA PE-K pellets boiler, the quality company from Upper Austria had not just in new builds, but especially renovations in its sights. So in most cases no large conversion is required for boiler replacements and existing conditions can be used best. For example, a pellet store can be placed up to 20 metres away — for instance there where the oil tank used to stand.

Serial quality

Larger heating requirements are also no problem for the ETA PE-K. So two, three or even more boilers can be set-up in parallel. This modular or cascade design was pefected by ETA, so that it's not only possible to easily put them into existing properties, but the effort as regards piping, buffer volume, pumps and assembly is also reduced to a minimum.

Everything under control everywhere

The heart of the efficient heating system is the control system, into which even a solar heating system or a small local heating network can be integrated. The boiler features active monitoring of all functions and remote maintenance via GSM and internet, making it ideal for contracting use.

Active control for dependability

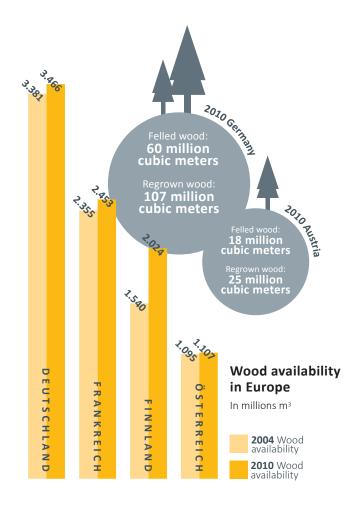
Safe operation is ensured by the comprehensive measurement and reporting of the most varied of boiler data, such as the draught fan speed, power consumption of screw motors, air flap position, residual oxygen in flue gas, return riser, exhaust temperature or hot water temperature.

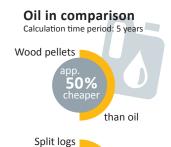


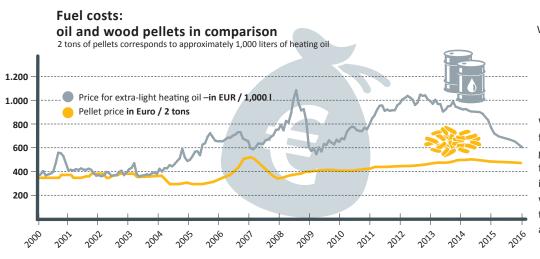
A win-win situation

Save on heating costs, strengthen your domestic economy and look after the environment in the process: heating with pellets is worth it. A drastic price rise is also not expected in the future, as wood always regrows. Currently, around 7 million cubic meters of excess wood is growing in Austria - and forested areas are increasing across the whole of Europe.











than oil

While the price of fossil fuels such as oil and gas is subject to heavy fluctuations in the international markets and will certainly rise long-term, the price of wood and pellets is reliable.

Always space for pellets

The pellet store can easily be set up anywhere where an oil tank stood before. It doesn't even have to be near the boiler, but can be situated up to 20 m and two storeys away. If there's no space in the house, the store room can also be set-up in an adjacent building, or an underground tank can be used. The store room just needs to be dry so that the pellets don't swell up. Wooden cladding can help in rather damp rooms.

A clean solution

The wood pellets, which are pressed from the waste products of the wood industry, are delivered by tanker and blown into the store room.

So the delivery of pellets is an extremely clean process. If the store is sealed then no dust can escape here either.

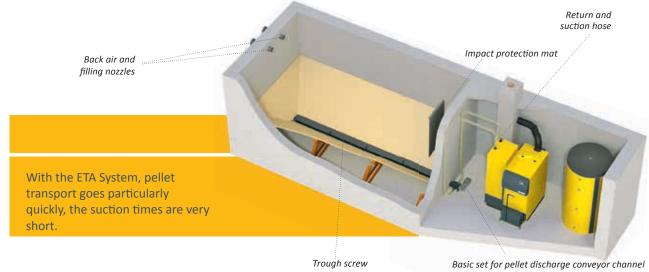


How do the pellets get to the boiler?

Discharge screw:

It stretches the entire length of the store room, can be up to 5 m long and transports the pellets from the store room to the transport hoses, which lead to the boiler. From here, the pellets are conveyed further with a vacuum motor. After transport the hoses are vacuumed empty. Hence they do not clog up and always work with the highest degree of efficiency. With this standard system, the store room can be completely emptied.

Over the inclined smooth floor, the pellets automatically slide into the transport screw. The impact protection mat is suspended opposite the filling nozzles, so that the pellets do not shatter on the wall when they are blown into the store room from the truck. The prerequisite for this construction is that the connections for the transport hoses to the boiler are located on the narrow side of the store room, so that the whole length of the room can be utilised with the screw.





Suction probes:

If the shape of the room is not suitable for a discharge screw, the ETA suction probe system is the ideal choice. Here, the pellets slide over the slanting and smooth wooden floor directly to the four suction probes, which alternately transport pellets away from the store room. Through automatic changeover, the fuel supply is not interrupted if a probe doesn't get any pellets at a certain point in time. The prerequisite for this system is that the store room is situated opposite the boiler in the same storey or higher, and that the store room is no longer than 4 m. Unlike screws, the suction probes do not fully empty the store room. When the storage room capacity is tight, this can be a disadvantage. The advantage is that this system can be used even in angled store rooms.



With the suction probes, nearly all rooms can be used as a pellet store, even if it's angular. Eight probes are also possible with larger store rooms.

How big does my store room have to be?

The approximate pellet requirement per year in tonnes is calculated by dividing the heating load in kilowatts by 3. For the pellet requirement in cubic metres, simply divide the heating load by 2. So, for example, for 90 kW heating load you need approx. 30 tonnes or 45 $\rm m^3 of$ pellets per year.

When moving from another energy source to pellets , the pellet requirement can also be determined from the previous consumption. 1 tonne of pellets roughly corresponds to:

- 500 I heating oil
- 520 m³ natural gas
- 750 | LPG
- 600 kg coal
- 1,400 kWh power with geothermal heat energy pumps (COP 3.4)
- 2,700 kWh power with air heat pumps (COP 1.8)

ETA tip:The solution for large storage capacities

Also at high boiler outputs you don't want to constantly have to rely on fuel deliveries. ETA has the ideal solution, because with the PE-K you can fully automatically access a year's supply.

Generally, discharge screws are an advantage, because with them the store room can be fully emptied and thus utilised. Which is why each ETAbox also has such a screw. In total, with the PE-K up to four screws can be controlled – also up to four ETAboxes or up to four store rooms or also up to four screws can be connected together in a large store room. The system switches back and forth between the screws with the help of a switching unit. The boiler's control system controls the runtime of each screw precisely and thus ensures an even extraction of the pellets from all channels.





Heat, just the way you need it

The ETA PE-K doesn't just produce heat, the ETA System also distributes it efficiently. Rely on the perfect control centre for your heating and hot water system.

The ETA PE-K is equipped with a control system for the entire heating system. Whether you want to integrate a solar heating system, a conventional hot water preparation system or a buffer storage tank with fresh water module, whether the energy is transferred with radiators or via underfloor heating: You've got everything under control via a touchscreen on the boiler or also via computer or smartphone. Simple images show you if your solar heating system was successful or how full your buffer is.

With buffer, please

ETA buffer storage tank is a perfect partner. Above all, when heating in fall or in spring and for hot water preparation in the summer, often less energy is needed than what the heating boiler produces. The buffer stores this excess heat and releases it on

cation platform.

Remote controlled via the meinETA communi-

demand. This saves fuel and protects the boiler, because fewer boiler starts are needed. The ETA stratified buffer is ideal for the integration of a solar heating system. In summer, hot water can be produced at virtually no operating costs. But in winter, the solar collectors seldom produce the 60 °C that are common for hot water preparation. Then the water that is heated by solar energy is fed through the underfloor heating. This usually works with hot water temperatures of just 30 to 40 °C.

The ETA stratified buffer can also be equipped with a fresh water module, which constantly reheats the tap water with the help of a heat exchanger. Thus the risk of germs and bacteria is minimised.

The ETA mixing circuit module for two heating circuits saves a lot of time and money during installation, as no sensor lines, pumps and mixer cables have to be installed.



No matter whether solar heating system, hot water preparation or buffer storage with fresh water module: the whole system can be easily controlled from the boiler display.





Cleanliness brings highest efficiency

In ETA systems, the combustion chamber and heat exchanger are automatically cleaned. This increases the efficiency and minimises the maintenance effort for the boiler. Eventually the ash box must be emptied – thanks to ash compression and large volumes of the ash box less frequently than with conventional systems.

Heat exchanger cleaning: permanently high efficiency. A special mechanism, which is applied with a pressure spring, cleans the heat exchanger pipes and allows fly ash to fall down with a return movement. Clean and efficient! The falling ash is largely picked up from the boiler floor via a cast rotary table and fed to a separate screw.

Ash box: large, but not too heavy.

The ash is collected in an external box. Both deashing screws compress the ash and extend the emptying interval significantly in comparison with other systems. Optionally, ETA also offers



an extra large ash box in waste bin format or ash transport system specially for large heating systems.



Rotary valve

The safe system. The rotary valve absolutely protects you from burn-back: Burning should only take place in the combustion chamber and nowhere else. A transport screw brings the pellets to the rotary valve — and only as many as the rotary valve can handle. This is why the pellets do not become wedged, crushed or broken. Thanks to this system developed by ETA, the sealed edges of the rotary valve do not wear out. The system remains safe throughout the entire service life of the boiler.



Lambda probe

It's about the mix. With help of the lambda probe, the mixing ratio of fuel and oxygen is perfectly coordinated.

So different pellet qualities achieve the best possible efficiency. In addition, the probe immediately detects if the ignition was successful. This reduces the ignition time and saves power and money.



The lambda probe is an important part of the combustion technology. In conjunction with the ETA combustion control system, it determines the course and quality of combustion.



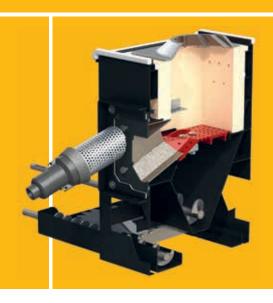
Control system

Versatile, but not complicated.

Whether furnace control, pellet conveying, buffer management, hot water preparation, weather-controlled heating circuit controlled with a weekly program for two circuits or the connected solar heating system: all of this can be controlled via a touchscreen directly on the boiler or via the internet from any PC, smartphone or tablet. Operation is simple as the images on the touchscreen are self-explanatory.

Optimised ignition

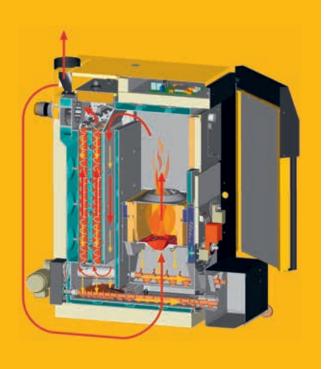
Practical and economical. If combustion breaks are only short, the refractory-lined combustion chamber still remains hot enough that any new fuel which is fed in can be ignited by remaining embers. The ignition fan only comes into use after longer combustion breaks. To save electricity, the ignition fan is deactivated immediately after successful ignition, as soon as the lambda probe and exhaust temperature sensor recognise the successful ignition. That saves energy!



Draught fan

Draught fan. Quiet as a whisper, this speed-controlled fan ensures constant underpressure in the boiler. It works very economically thanks to special speed control. Additionally, the draught fan ensures oxygen supply in the combustion chamber and therefore for ideal burning behaviour and best utilisation of the fuel. Through the sophisticated boiler construction the draught fan produces sufficient underpressure in the boiler, so that, contrary to conventional systems, no additional draught fan is needed. This minimises operating costs!





Flue gas recirculation

Highest efficiency, long lifetime Recirculating the flue gas from the boiler outlet back into the combustion chamber increases the gas flow through the grate as well as through the fire. Thus also cooling the grate better. This ensures stable temperatures exactly in the right area. Thanks to flue gas recirculation, temperatures in the combustion chamber always lie above 800 °C. So complete combustion is guaranteed. At the same time, the temperatures also lie below the melting point of wood ash, i.e. below 1,000 °C. So the boiler is safe against slag formation on the grate!



Storage hopper directly on the boiler

Everything you need: With the PE-K 70-90 kW, 90 kg of pellets are stored temporarily and are immediately available for heating. So with a heating load of 90 kW, pellets have to be transported from the store room to the boiler only once or twice a day for 10 minutes.

Higher outputs demand suitable technology:

150 kg pellet supply for PE-K 110-140 kW or 215 kg for PE-K 180-220 kW.

The pellet hopper is sized to operate at full output for at least approx. 5 hours, without having to suck in pellets during this time. The required underpressure for suction of the pellets is ensured by a vacuum turbine for industrial applications.

With a brushless EC motor, it is extremely low wear and reliable in operation.

The pellets are sucked up by high-quality reinforced hoses, which also have an increased suction volume despite the standard diameter of 50 mm.

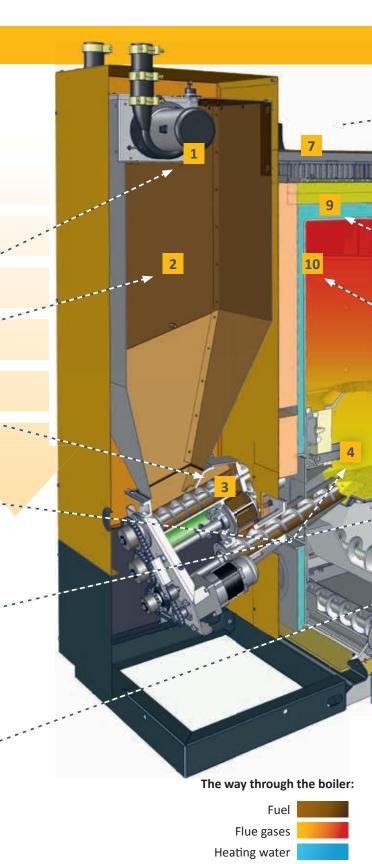




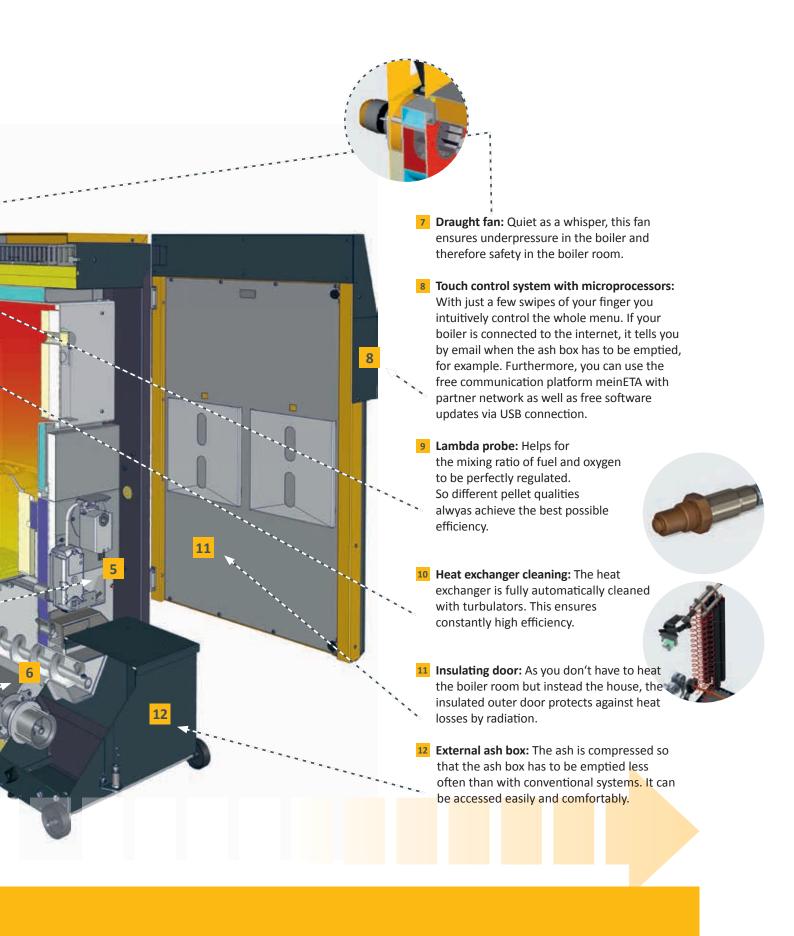
The way to heat

From the pellet hopper through to the combustion chamber and to the heat distribution system: the interplay of high-quality components is in demand!

- **Vacuum turbine:** It transports the pellets from the store room to the intermediate container of the boiler.
- Pellet hopper: The pellets are stored here temporarily and are immediately available for combustion.
- 3 Rotary valve as burn-back protection device: It is the completely sealed closing door between store and ignition and therefore safely protects against burn-back.
- 4 Clean combustion chamber: To fully free the combustion chamber of ash, the grate automatically tilts at an angle of over 90°, the ash can fall down smoothly.
- 5 Primary and secondary air flap: Both flaps are controlled via the lambda probe so that the ideal amount of air reaches the combustion chamber for the combustion. The automatic signal calibration ensures that the current data is always processed from the lambda probe and thus that the highest efficiency is continuously achieved.
- Fully automated de-ashing: Via two separated screws but one common drive, the ash is transported out of the heat exchanger and the combustion chamber to the ash box and compressed there so that the ash box has to be emptied less frequently than with conventional systems.









Away mode, night time reduction, vacation setting: intuitively, you know immediately which button does what.

You can control the boiler via smartphone, PC or tablet as well as directly on the touchscreen.

Easy to control from anywhere

Good technology is characterised by its user friendliness. You don't have to be a technician to use the many functions of the ETAtouch.

ETAtouch: the touchscreen on the boiler

Confusingly arranged buttons and control systems are a thing of the past, because with the touchscreen of the ETA PE-K you can quickly and easily control all settings. The icons are self-explanatory. Whether you generally want to make it warmer or cooler, change the time for night-time reduction or want to switch to eco mode during your vacation - you will tap on the right symbol intuitively and completely without operating manuals!

You not only control your boiler via the touchscreen, but also have an overview of all connected components, such as buffer storage tank, pellet store, solar heating system or hot water preparation. You know straightaway, for example, how many pellets you still have in store or how effective your solar heating system was.

meinETA: the free internet platform

If your heating boiler is connected to the internet,

you can see and change all heating settings on your mobile, tablet or PC. So you always have a handle on your heating, wherever you are! When you login to www.meinETA.at, you see the touchscreen as if you were standing right in front of the boiler!

The pellet store needs filling, the ash bin must be emptied, it's time for the next heating service... You don't have to remember all these things yourself. meinETA reminds you for free by email.

Quick help

Give your installer or the ETA customer service representative temporary access rights to your meinETA account. So they can prepare for their visit to you. And maybe the technician doesn't even have to come visit, because thanks to meinETA they can tell you over the phone what you need to do to make your heater work again. You can see who can access your boiler via the status display. Only you decide who's in your network!





Technical requirements for meinETA

To be able to use meinETA, you need a broadband connection in your home. The ETA boiler's touch screen is connected to the Internet via a network cable. And anyone who doesn't have a network connection in the basement simply connects via the ETA PowerLine. It comfortably transfers the data from any socket to the modem.

For tablet, smartphone and PC

meinETA runs on all current operating systems, such as iOS or Android. Via PC, meinETA can be loaded by any modern internet browser, such as Mozilla Firefox, Safari, Google Chrome or Internet Explorer 9, for example.

Integration into Building Management

The integration into an on-site building management or master control system is relatively unproblematic. Values can be queried and changed with RESTful web services and Modbus/TCP.



There for you

ETA devices are characterised by the highest quality. They feature patented systems developed in Austria. The entire assembly takes place in-house in Hausruckviertal, Austria. In the unlikely event of a breakdown, ETA customer service is on the spot quickly. An experienced, competent on-call team is available to you.

Everything on one display: the ETA standard

A modern heating system is only effective if it is well-controlled. ETAtouch takes care of that.

At no added cost, the ETAtouch control system already includes all functions for two heating circuits, hot water supply via tank or fresh water module as well as for the integration of a solar heating system. All ETA boilers come with a LAN connection as standard. If you connect the boiler to the internet, you can easily control all components from a PC, tablet or smartphone.

Boiler and combustion regulation*

Speed-controlling the units saves power. The lambda and ignition time regulation increases efficiency. All components relevant to operation are monitored.

Buffer storage tank management**

Three to five sensors in the tank control the heat generator in the system and distribute the energy to the different consumers. Using five sensors, cascading regulation, QM wood heating stations and peak load management are part of ETA Standard.

Hot water preparation*

Is made possible both via the ETA fresh water module but also via the hot water tank or combi storage. For all variants, circulation pumps can be controlled with time and/or requirement programs.

Solar heating systems**

Single or double circuit solar heating systems with one or two tanks, zone loading via the ETA stratified charging module and also two collector fields as well as three consumers are controlled.

Two weather-controlled mixing heating circuits**

They run with a weekly program with many time windows and automatic and/or manual additional functions. The system can optionally be expanded with room sensors and remote control.





Of course also without the need for an operating manual: The symbols on the touchscreen are selfexplanatory. Making control of the heating system child's play.

Additional system functions**

Detection of external heating devices such as oil boilers, gas heaters, heat pumps and stoves, thermostat or differential temperature thermostat, heat demand of external devices such as heaters, control of pipelines with or without mixer and also of heat transfer stations, individual room control

Wall switch box for complex systems

All control systems can be extended with wall switch boxes, with or without touchscreen.

^{*}Control system and sensor included in standard delivery scope

^{**} Control system depends on configuration, sensors are available as accessories



From Hausruckviertel to the whole world

ETA specializes in the manufacture of biomass heating, i.e. log, pellet and wood chip boilers. The most modern technologies combined with naturally growing resources.

ETA is efficient

Technicians designate the efficiency of a heating system with the Greek letter η , pronounced "eta". ETA boilers stand for more heat with less fuel consumption, environmental soundness and sustainability.

Wood: old, but good

Wood is our oldest fuel - and our most modern: There is a lot of history in-between open fires in front of caves and modern biomass boilers. In the middle of the 20th century, the number of wood heating systems fell briefly. Oil was the new heating hype. A brief interlude in comparison to the consistency of wood. Today, we know that heating with fossil fuel has no future. It contributes to global warming and harms the environment. Supply security is not guaranteed long term also, as fossil fuels are diminishing, don't regrow, and sometimes come from politically unstable regions. While wood in contrast is a cheaper, domestic, renewable raw

material that does not pollute the climate when burnt. No wonder wood heating is booming!

Comfort with many components

Since December 1998, the Upper Austrian company ETA has been designing and building a new generation of wood-fired boilers. They are full of patented technologies and the most modern control technology – and are still easy to use. Comfort and efficiency make ETA products so popular around the world. With a production of over 10,000 boilers per year and a global export quota of around 80%, ETA is one of the leading biomass boiler producers.

You get more than just a boiler

Anyone who decides on a wood or pellet boiler from ETA is choosing sustainability. And not just in terms of fuel. ETA shows responsibility across the board. So sustainable workplaces are created in the region. More than 200 employees in Hofkirchen an der Trattnach have the best working conditions – including an in-house canteen, bright assembly and storage halls, fitness rooms, and a sauna. And a free electric filling station, which is supplied by the in-house photovoltaic system. This also covers all power needs of a production hall and thus saves around 230 tonnes of CO2 per year.





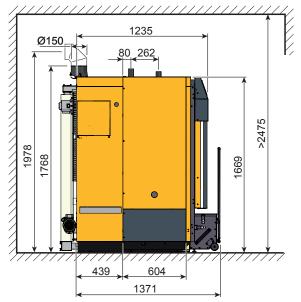


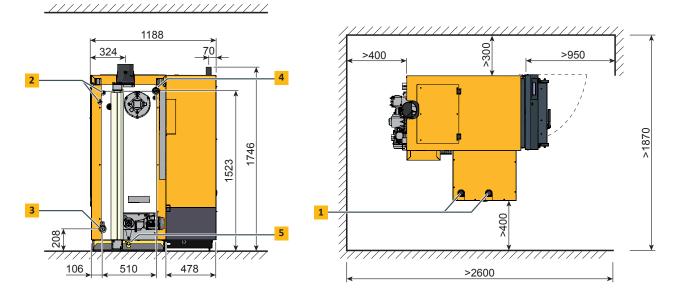


Pellet boiler ETA PE-K 70 - 90 kW

- 1 Pellet suction hose and return air hose DN 50
- 2 Safety heat exchanger R1/2" external thread
- 3 Return with coupling R6/4"
- 4 Flow with coupling R6/4"
- 5 Discharge with R1/2" coupling

The boiler can optionally be supplied with stoker on either the right or the left side.











Pellet boiler	Unit	70 kW	90 kW		
Rated capacity	kW	21 - 70	28.4 - 95		
Pellets efficiency at partial / full load*	%	92.1 / 93.0	91.6 / 93.0		
Transport dimensions without pellet bin W x D x H	mm	810 x 1,418 x 1,768			
Weight with stoker	kg	965	967		
Weight without stoker	kg	861	863		
Water content	Litres	196			
Water-side resistance (ΔT = 20 °C)	Pa / mWs	478 / 0.047	880 / 0.088		
Pellet bin on boiler (net)	kg	90 kg (441 kWh)			
Maximum distance to pellet store	m	20			
Ash box volume	Litres	44			
Required flue draught at partial/full load	Pa	>2 / >5 a draught limiter is always required			
Electrical power consumption at partial / full load*	W	90 / 190	95 / 206		
Required buffer tank volume in Germany (1. BImSchV)	Litres	1,400	1,800		
Maximum permissible operating pressure	bar	3			
Temperature adjustment range	°C	70 - 85			
Maximum permissible operating temperature	°C	95			
Minimum return temperature	°C	60			
Boiler class		5 acc. to EN303-5:2012			
Suitable fuels		Pellets, ENplus-A1, ISO 17225-2-A1			
Electrical connection		1x 230 V / 50 Hz / 13 A			

^{*}Data from test reports by BLT Wieselburg









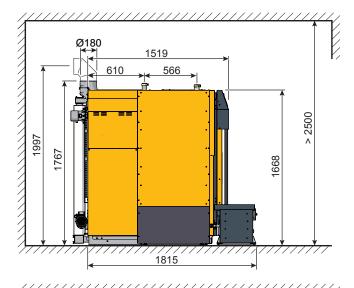


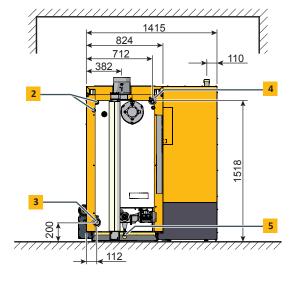


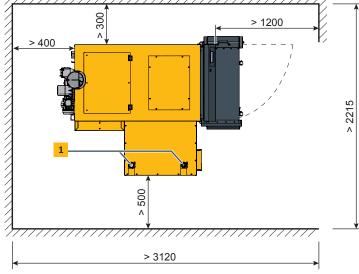
Pellet boiler ETA PE-K 110 - 140 kW

- 1 Pellet suction hose and return air hose DN 50
- 2 Safety heat exchanger R1/2" external thread
- 3 Return with coupling R2"
- 4 Flow with coupling R2"
- 5 Discharge with coupling R1/2"

The boiler can optionally be supplied with stoker on either the right or the left side.













Pellet boiler	Unit	110 kW	140 kW		
Rated capacity	kW	33-110	38-140		
Pellets efficiency at partial / full load*	%	92,9 / 93,0	94,0 / 93,0		
Transport dimensions without pellet bin W x D x H	mm	930 x 1.670 x 1.767			
Transport width with panels removed	mm	790			
Weight with stoker	kg	1.327			
Weight without stoker	kg	1.189			
Water content	Liter	290			
Water-side resistance (ΔT = 20 °C)	Pa / mWs	1.600 / 0,160	1.600 / 0,160		
Pellet bin on boiler (net)	kg	150 kg (735 kWh)			
Maximum distance to pellet store	m	20			
Ash box volume	Litres	110			
Required flue draught at partial/full load	Ра	>2 / >5 a draught limiter is always required			
Electrical power consumption at partial / full load*	W	108 / 248	108 / 248		
Maximum permissible operating pressure	bar	3			
Temperature adjustment range	°C	70 - 85			
Maximum permissible operating temperature	°C	95			
Minimum return temperature	°C	60			
Boiler class		5 acc. to EN303-5:2012			
Suitable fuels		Pellets ISO 17225-2-A1, ENplus-A1			
Electrical connection		1 x 230 V / 50 Hz / 13 A			

^{*}Data from test reports by BLT Wieselburg



entspricht EU-Normen



Österreich



Holzenergie Schweiz Süddeutschland



Österreichisches Umweltzeichen

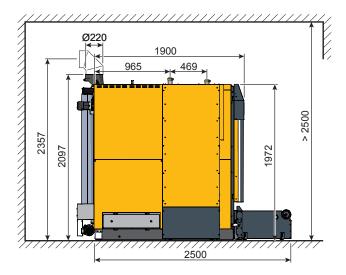


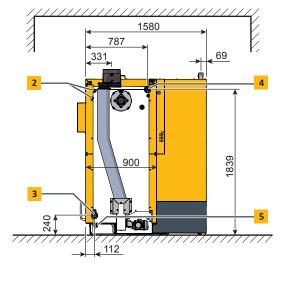
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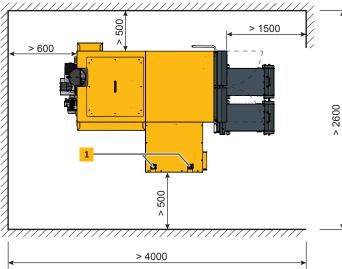
Pellet boiler ETA PE-K 180 - 220 kW

- 1 Pellet suction hose and return air hose DN 50
- 2 Safety heat exchanger R1/2" external thread
- 3 Return with coupling R2"
- 4 Flow with coupling R2"
- 5 Discharge with coupling R1/2"

The boiler can be supplied with stoker on either the right or the left side.













Pellet boiler	Unit	180 kW	199 kW	220 kW
Rated capacity	kW	54 - 180	58 - 199	58 - 220
Pellets efficiency at partial / full load*	%	94,9 / 93,6	95,1 / 93,8	94,1 / 92,7
Transport dimensions without pellet bin W x D x H	mm	1,106 x 2,100 x 2,097		
Transport width with panels removed	mm	865		
Weight with stoker	kg	1.958		
Weight without stoker	kg	1.800		
Water content	Litres		448	
Water-side resistance (ΔT = 20 °C)	Pa / mWs	1.700 / 0,170	1.700 / 0,170	1.700 / 0,170
Pellet bin on boiler (net)	kg	215 kg (1.054 kWh)		
Maximum distance to pellet store	m	20		
Ash box volume	Litres		2 x 80	
Required flue draught at partial/full load	Pa	>2 / >5 a draught limiter is always required		
Electrical power consumption at partial / full load*	W	122 / 337	122 / 337	122 / 337
Maximum permissible operating pressure	bar			
Temperature adjustment range	°C		70 - 85	
Maximum permissible operating temperature	°C		95	
Minimum return temperature	°C		60	
Boiler class	5 acc. to EN303-5:2012			
Suitable fuels	Pellets ISO 17225-2-A1, ENplus-A1			
Electrical connection	1 x 230 V / 50 Hz / 13 A			

^{*}Data from test reports by BLT Wieselburg













23



ETA PU PelletsUnit 7 to 15 kW



ETA PC PelletsCompact 20 to 50 kW



ETA PE-K Pellet Boiler 70 to 220 kW



ETA SH Wood Gasification Boiler 20 to 60 kW



ETA SH-P Wood Gasification Boiler 20 and 30 kW with ETA TWIN Pellet Burner 20 and 26 kW



ETA HACK Wood Chip Boiler 20 to 200 kW



ETA HACK VR Wood Chip Boiler with moving grate 333-500 kW



ETA stratified buffer SP 500 to 5,000 lt and SPS 600 to 2,200 lt $\,$



ETA Hydraulic modules

Your heating specialist will be happy to advise you



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Pelletskessel ETA PE-K EN, 2016-11

