

ETA HACK
20 to 200 kW

ETA 
... my heating system



**The wood chip boiler for
agriculture and businesses**



A passion for perfection.
www.eta.co.at



The ETA Hack is therefore ideal where heating needs to be economical, environmentally-friendly and fully automatic, above all in agricultural businesses, industry, commerce and in the form of local heating networks.

Fully automatic, flexible, economical

In times of rising raw material costs, it is really a challenge to heat larger properties – not, however, if you rely on a crisis-proof and domestic fuel such as wood chips.

Wood chips are produced from wood that is difficult to reuse, such as thinning materials, splinters of wood after storm damage and sawing residue from domestic wood processing plants. It is chopped in powerful chippers and according to predefined standards. The size of wood chips is standardised. Sizes from P16S - P31S are suitable for our systems.

One system, also for coarse chips

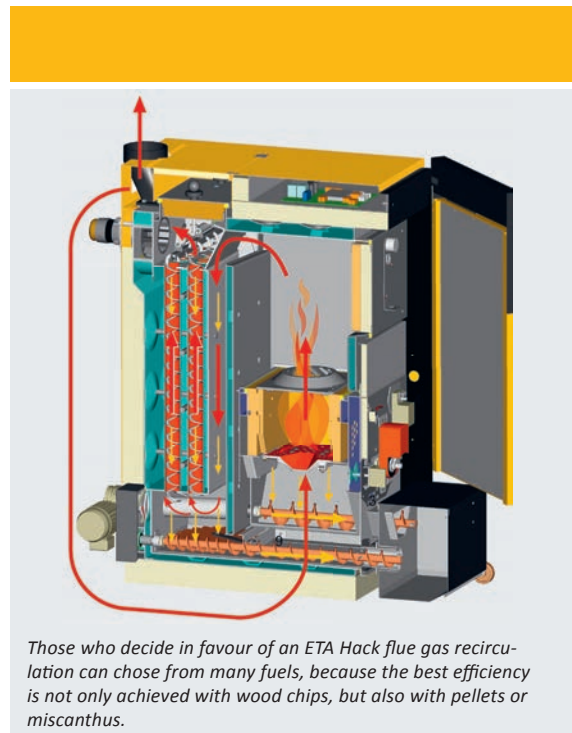
Every ETA wood chip conveyor system is well-thought out, tried and tested and designed for the toughest use: the transport of coarse, uneven wood chips. So that pieces of wood of up to 12 cm can be transported, all parts must work together perfectly. That starts already in the bunker. The wood chips reach the screw via generously designed open troughs. In the process, a relief plate prevents the material from exerting too much pressure on the discharge screw and thus enables fill heights of up to five metres. Bottlenecks are avoided in the enclosed trough channel thanks to the spacious discharge connections. A smooth material transport is supported by the progressive screw, which additionally loosens the wood chips.

Even the installation is easy thanks to the modular design. The screw modules with sizes of 12.5 to 200 cm are produced and aligned in automated machines, the specially shaped trough channels only have to be screwed together.

Even more flexible thanks to flue gas recirculation

ETA wood chip systems offer the advantage that the operator can use wood chips of differing qualities. Not just in terms of size. For very dry fuels such as dried wood chips (< 15 % water content [M]), miscanthus or also pellets, flue gas recirculation is used, a tried and tested element from the construction of large plants.

Flue gas recirculation is optional and is activated when required. The combustion temperature in the degassing zones is therefore kept exactly at the desired temperature level – over 800 °C, but under 1,000 °C. So on the one hand all components of the fuel are completely divided and on the other the thermal loading of the parts is minimised, i.e. the lifetime of the boiler is increased. Combustion temperatures that are too high can also lead to undesirable slag formation.

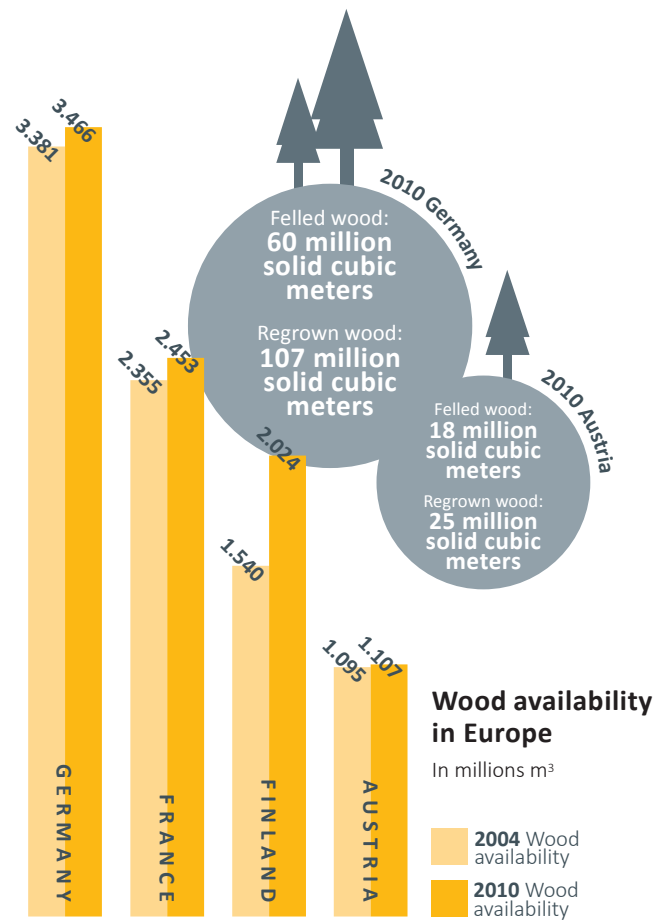


Those who decide in favour of an ETA Hack flue gas recirculation can choose from many fuels, because the best efficiency is not only achieved with wood chips, but also with pellets or miscanthus.

A win-win situation

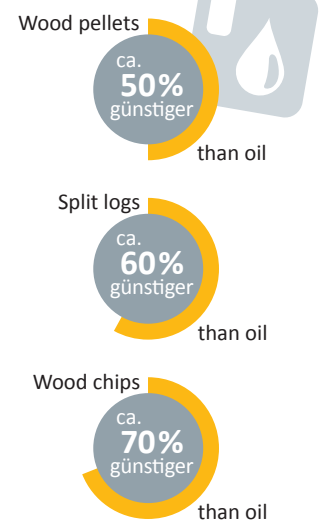
Save on heating costs, strengthen your domestic economy and look after the environment in the process: heating with wood is worth it. Wood continuously regrows in our domestic forests, thus it is crisis-proof and economical. Forested areas are growing across Europe.

The natural raw material is CO₂-neutral, this means that during its combustion no more CO₂ will be released than tree absorbs during its growth. The same amount will also be released if the wood rots in the forest. So heating with wood doesn't burden our climate.

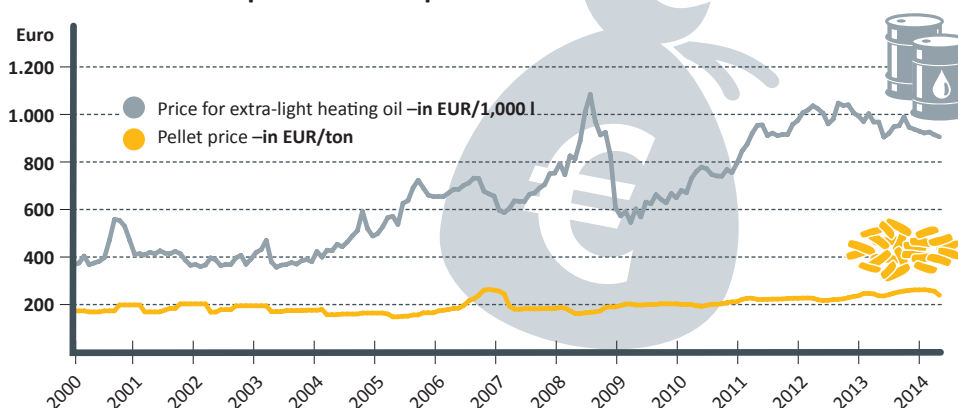


Oil in comparison

Calculation time period: 5 years



Fuel costs: oil and wood pellets in comparison



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.

From store into the boiler

How should I design my store room? How to ensure the smooth transport of fuel from the store into the boiler? With the ETA systems you have the most varied of options.

One agitator for all eventualities

The ETA agitator adapts to the structural conditions. Ideally there is a height difference between the store room and the boiler room, so that the agitator can

run level. But with ETA even an inclined transportation is possible between store and boiler. Because the feet under the agitator plate can be adjusted. So the inclination of the conveying system can be precisely set.

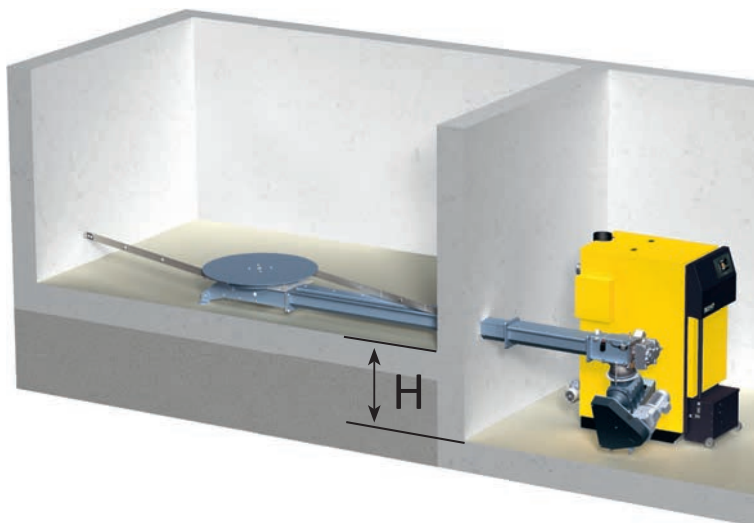
Up to 200 kW the ETA differentiates in 2 discharge sizes:

20 - 90 kW diameter agitator 1.5 - 6 metre

Screw diameter 115 mm

110 - 200 kW diameter agitator 3 - 6 metre

Screw diameter 160 mm

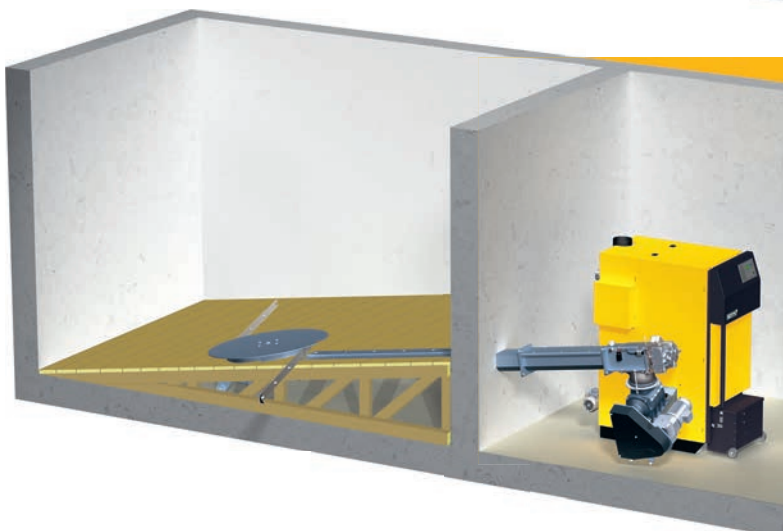
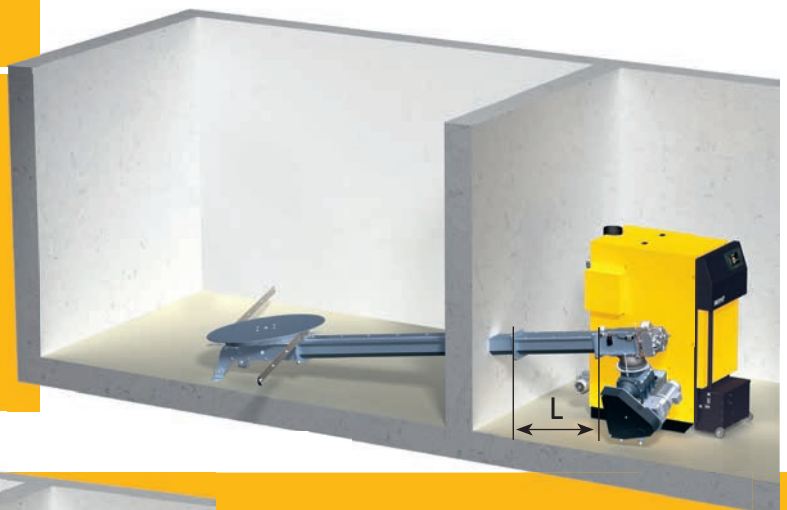


ETA tip: For horizontal discharge the following height differences between store room and boiler room are needed:
for boilers up to 90 kW: H = 715 mm
for boilers up to 130 kW: H = 735 mm
for boilers with 200 kW: H = 790 mm

ETA info: Planning advice for a wood chip store

The floor agitators are designed for a maximum wood chip fill height of 5 m.

- The trough screw between store outlet and boiler may be a maximum of 6 metres (L) long.



With or without tilted floor? Without a tilted floor the installation of the floor agitator is easier. You can rely on quiet operation. However, a small part of the store cannot be emptied fully automatically. This is simply filled with very dry wood chips during the first load. If you decide on an inclined tilting floor, fewer wood chips remain in the store.

The solution for pellet heaters

If there is little space for a wood chip store, pellets are the ideal solution, as the energy density of pellets is about four times as high as that of wood chips. So for the same heating performance you only need a quarter of the storage space.

Planning advice for a pellet store with agitator

- Pellets are much heavier than wood chips. That is why agitators may only be filled with pellets up to a height of 2 metres.
- To ensure that the pellets are not damaged, only flat-spring agitators up to max. 4 m in diameter may be used.
- A special cover plate for pellets is needed on the open trough screw in the store.
- The trough screw between store outlet and boiler may be a maximum of 1.5 metres long.

Those who want to operate their boiler with pellets only...

... should rely on the discharge screws specially developed by ETA for the transport of pellet fuel. They can either be connected to the boiler or in combination with the ETA industrial suction unit be placed away from the boiler. Additionally, the fuel

A numbers game

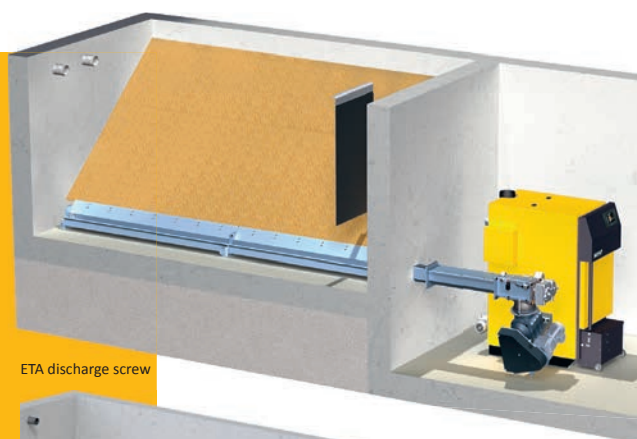
A business with 200 kW heating load annually consumes about 65 tonnes of pellets, that corresponds to a size of 100 loose cubic metres. If a pellet delivery arrives three times a year, including reserves, a store room volume of just 50 m³ is sufficient. For 4.5 metres fill height, a store room footprint of just 2 times 4 metres is required.



can also be heaped up significantly higher thanks to the ETA discharge screw. With the ETA industrial suction unit, simple room barriers such as corridors or longer distances can be overcome.

Planning advice for pellet store with discharge screw:

- The open trough screw in the store room may be a maximum of six metres long, the total length of the open and closed trough screws may be a maximum of eight metres.
- Taking into consideration the structural integrity of the building, the screws can be filled up to six metres high.
- With the ETA industrial suction unit, distances of up to 35 metres and height differences of up to 5 metres can be overcome.



ETA discharge screw



ETA industrial suction unit

Store filling: simple, safe, clean

Particularly when heating with wood chips, a thought-out solution is important for how the store is filled, because this saves money and gives piece of mind for many years



Ground level filling

This form of storage is the classic one used on the farmstead or commercially. It is the most economical and simplest way to store wood chips. If devices such as front-end loaders or push-off trailers are available, they are even better to use. Also the work and time expended when filling is reduced to a minimum. With large volume transport units such as dumpers or push-off trailers, the material is directly unloaded onto the discharge system. ETA discharge systems allow extremely large fill heights. With

a front end loader or telescopic loader the wood chips are just suspended.

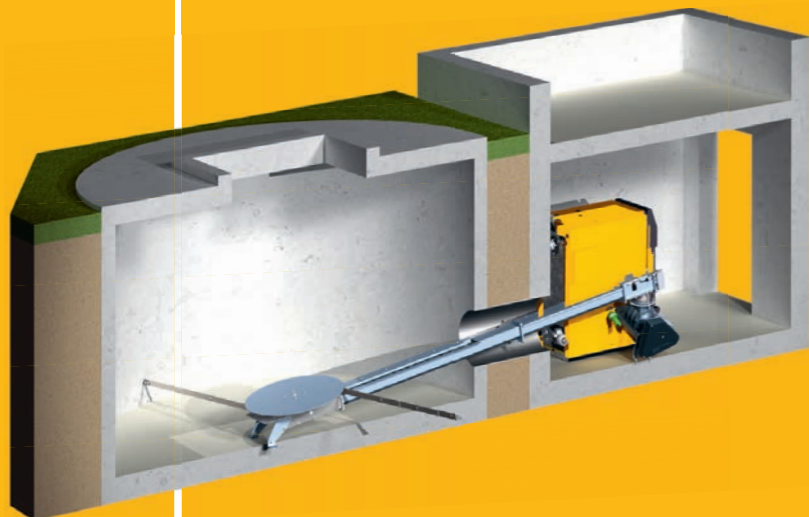
Collision protection, so that the floor agitator is not damaged.

ETA tip: Collision protection

It protects against accidental damage to the agitator during filling.

Dumping into a store below access level

To achieve a good fill even with a steep angle of repose for wood chips, the shaft opening should be large. In the best case, it is 2 m wide and extends across the entire diameter of the store. Store diameters up to 6 m are possible with this system. To prevent bridging, the agitator diameter chosen should never be less than the store diameter. If a new store is to be built, the best solution is an economical round layout that can be realised with typical manure pit formwork. That is especially economical.





Special solutions as required

With our modular system, we are able to build a technically perfect discharge system with a very good price-performance ratio for almost all situations. With ETA, two agitators can be implemented for one boiler or one agitator for two boilers, among other things. For fuel silos in carpentry workshops, ETA offer pivot augers.

You can use intermediate conveyor screws to overcome height differences, direction changes and distances up to 6 m. These should not be installed with inclinations greater than 30°. We also use intermediate conveyor screws to form connections to existing store room conveying systems.



Bunker filling screw or filling nozzle for cellar rooms

This solution is ideal if you want to use existing rooms or have your wood chip system directly in the house. Bunker filling screws can be very flexibly installed at an angle to the room's axis or also inclined and are continuously adjustable up to 45°. Here, floor agitator diameters up to 6 m are

possible. For room heights less than half the agitator diameter, we recommend two screws to be able to optimally fill the store room.

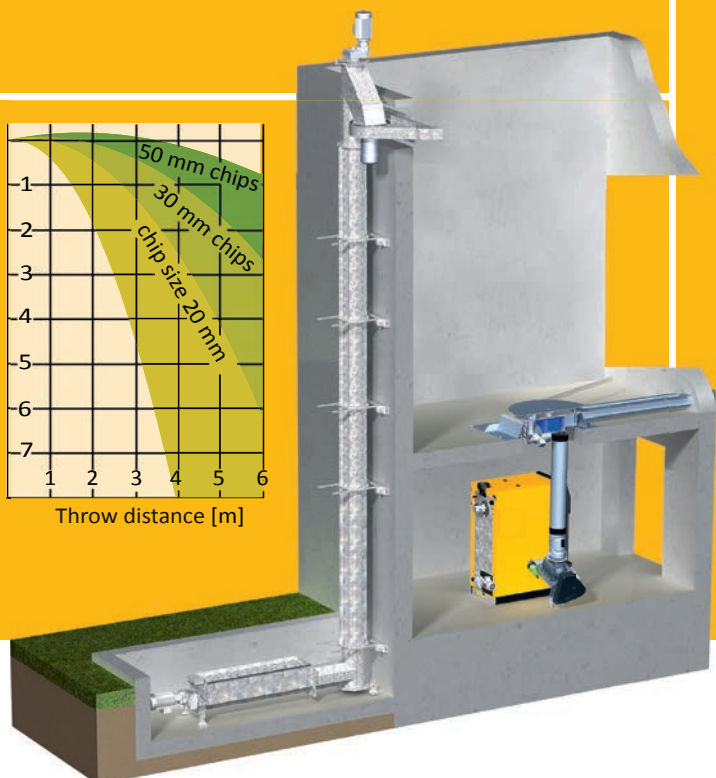
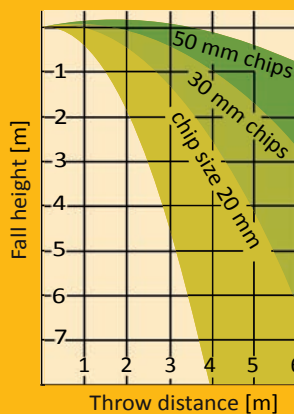
If the building situation does not allow a filling hopper or access to the wood chip transporter is difficult, wood chips can be fed from the tanker via a filling nozzle. If only pellets are to be used, filling nozzles are the best solution.

ETA extra: better safe than sorry

All open filling troughs have a protective screen. This not only protects against accidents when the screw is running, but also ensures the smooth transport of the wood chips without jamming thanks to the jogging motor. A protective screen that can be built in at the same level with the dimensions of 2.5 times 1 metre can also be delivered.

Vertical screw and centrifuge for high store rooms

This solution is suitable for coarse wood chips with a small fine portion, but not for pellets. It is used for high store rooms, so for example when the boiler room is integrated into high rooms or there is little area available. With the vertical transport screw wood chips can be conveyed up to 8 metres high. In order for the centrifuge to eject the wood chips widely and optimally in the store room, the ratio of fine material may not be too high.



Heat, just the way you need it

The ETA wood chip boiler 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 wood chip boiler 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

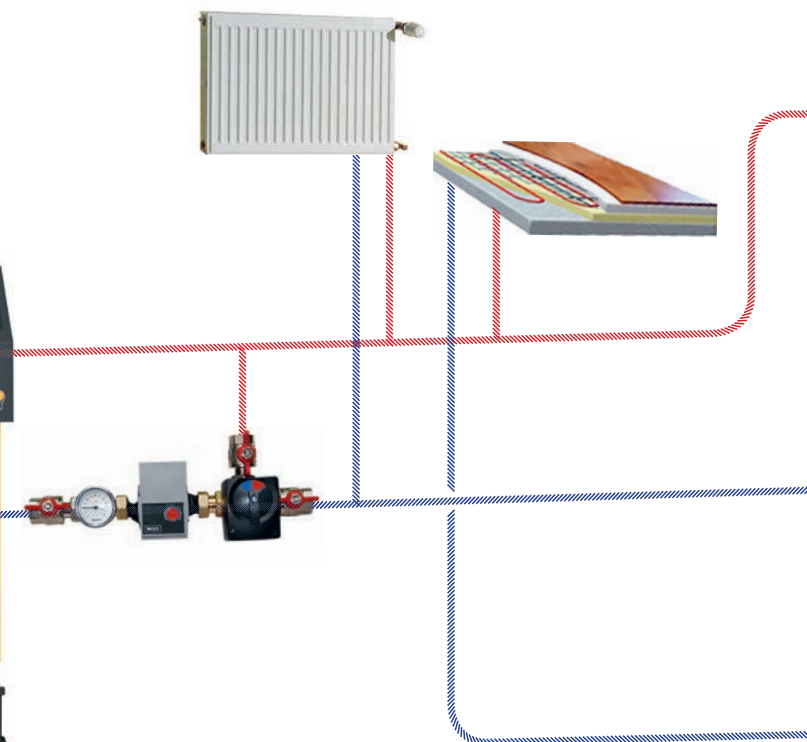
ETA buffer storage tank is a perfect partner. Above all, when heating in fall or in spring and for hot water preparation in the summer, often less energy is needed than what the boiler produces. The buffer stores this excess heat and releases it on demand.

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.

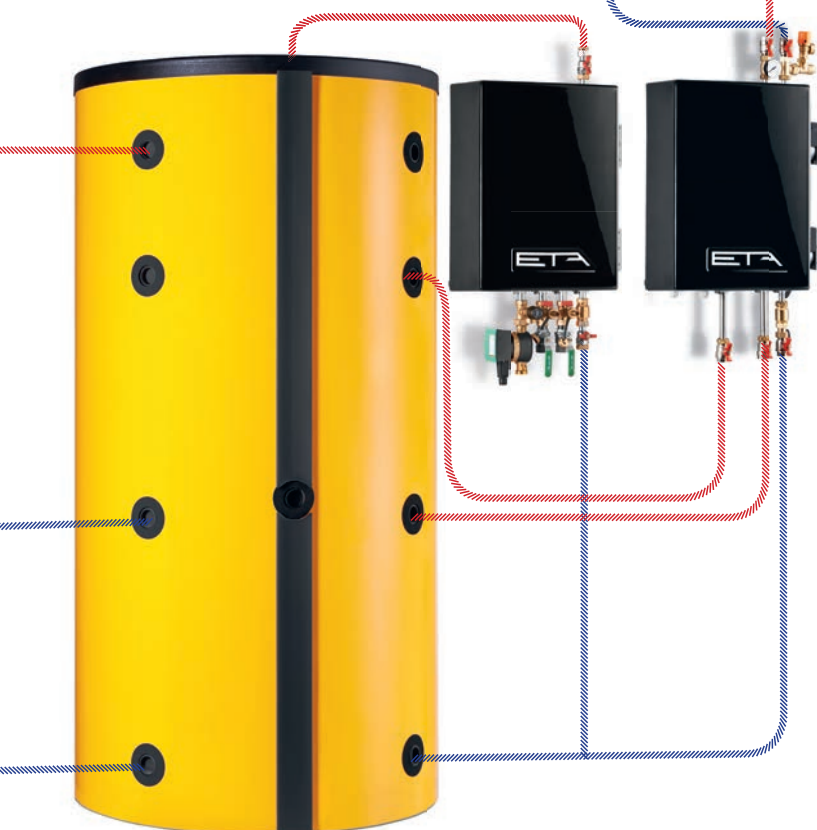
Remote controlled via the meinETA communication platform.





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

An ETA stratified buffer is the ideal addition to a wood chip boiler. It stores energy that is not required and delivers on demand.



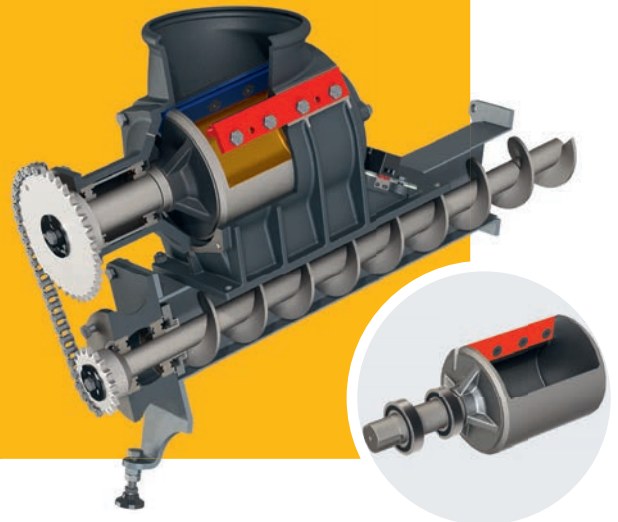
Patented one-chamber rotary valve

Uniquely safe: ETA sets new safety standards with the sealed one-chamber rotary valve. In contrast to conventional burn-back flaps, there is never a position that results in a direct connection between the combustion chamber and the fuel store. Dangerous burn-back is excluded, as no hot gas from the combustion chamber can penetrate the fuel feeding system.

Low power requirement: The one-chamber rotary valve has been newly developed by ETA to handle wood chips of up to size P31S. Pieces of wood that are too long are cut by a hardened blade on the edge of the chamber. The power requirement is minimal, the one-chamber rotary valve is driven by the same motor as the stoker screw.

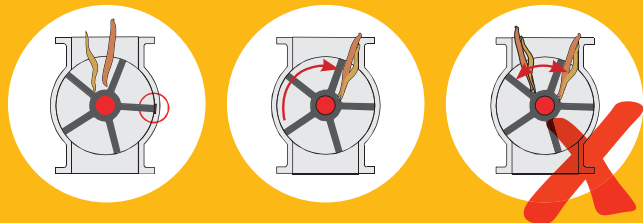
Rotary valve stop for long lifetime: The blade on the rotary valve serves to cut off very long individual pieces of wood chips. A rotary valve stop is used to ensure that it doesn't cut wood chips of the proper size. It protects the knife blade and reduces wear on the sealing edges.

ETA info: The rotary valve stop functions like this The discharge screw conveys the material from the store room into the drop chute upper section. From there the material falls into the one-chamber rotary valve. Meanwhile the screw remains open pointing upwards. Because during the filling process it does not continue to turn and is only half filled, fuel material that is compliant with the standard is not constantly cut off. No material remains lying on the sealing surfaces. Thus ensuring a long lifetime for the blade and sealing surfaces.



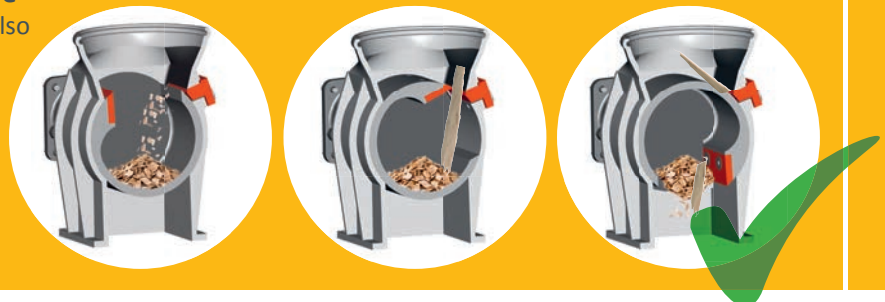
Conventional double or multi-chamber rotary valve:

- larger power and energy requirement specially for coarse wood chips
- long pieces of wood bring the boiler to a standstill
- high wear
- noisy
- small sealing surfaces



ETA HACK one-chamber rotary valve

- low power and energy requirement also for coarse wood chips
- long parts are cut off with blades
- quiet
- low wear
- large sealing area and thus the highest burn-back safety



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 fuel 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.



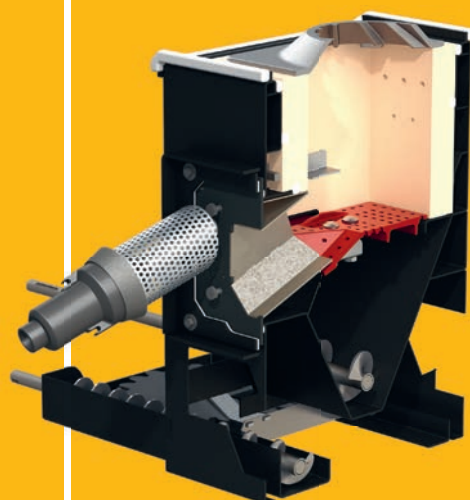
Control system

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!



The way to heat

From the store room to the transport system into the combustion chamber: the interplay of high quality, flexible components and according to the room situation is needed!

1 Floor agitator: Depending on the size of the store room, ETA offers the suitable floor agitator with strong flat-spring arms. The standard versions are available in half metre steps between 1.5 and 4 metres diameter. From 4.5 to 6 metre diameter, the articulated arm technology is used, for which the arms of the agitator are reinforced.

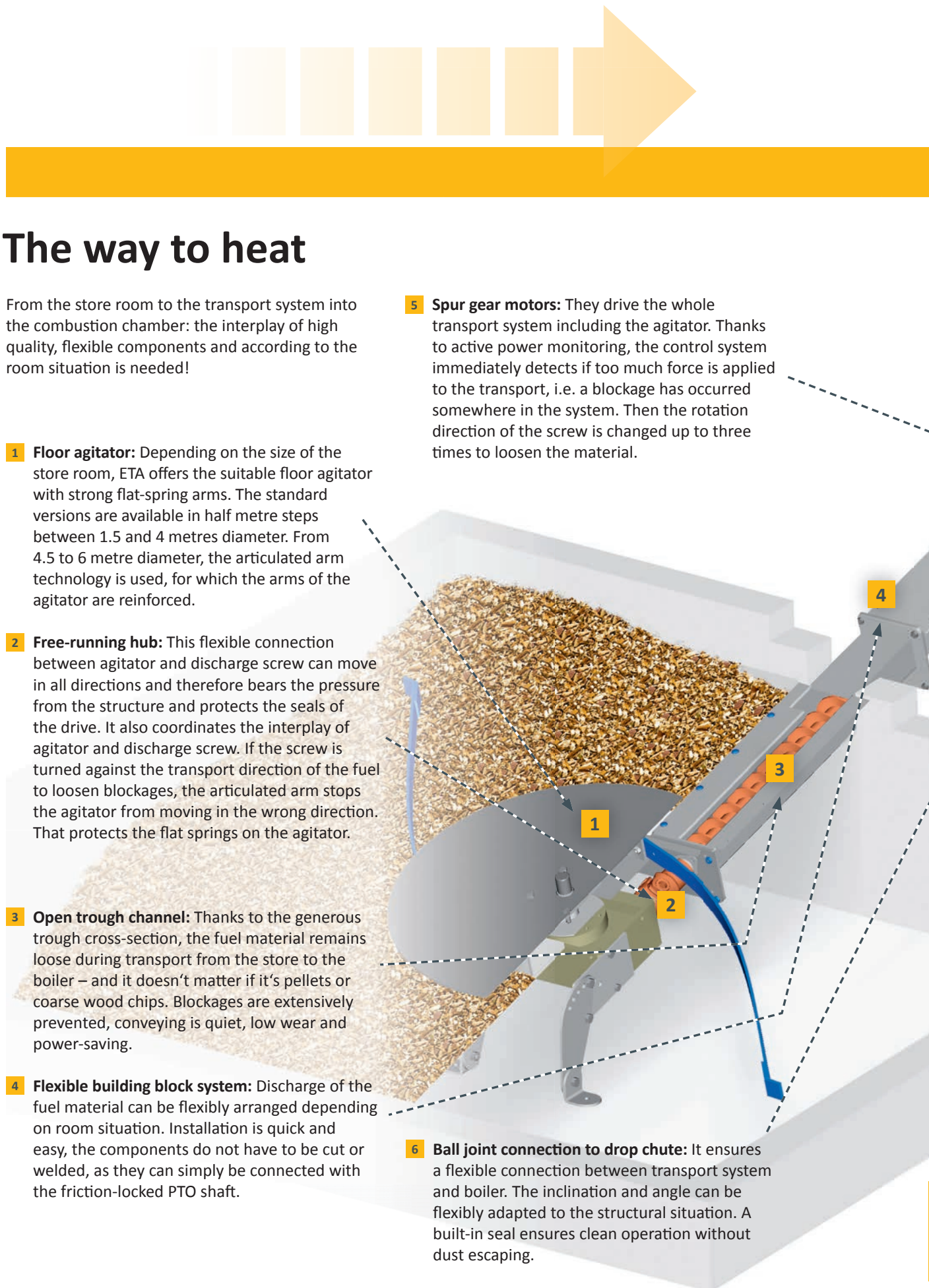
2 Free-running hub: This flexible connection between agitator and discharge screw can move in all directions and therefore bears the pressure from the structure and protects the seals of the drive. It also coordinates the interplay of agitator and discharge screw. If the screw is turned against the transport direction of the fuel to loosen blockages, the articulated arm stops the agitator from moving in the wrong direction. That protects the flat springs on the agitator.

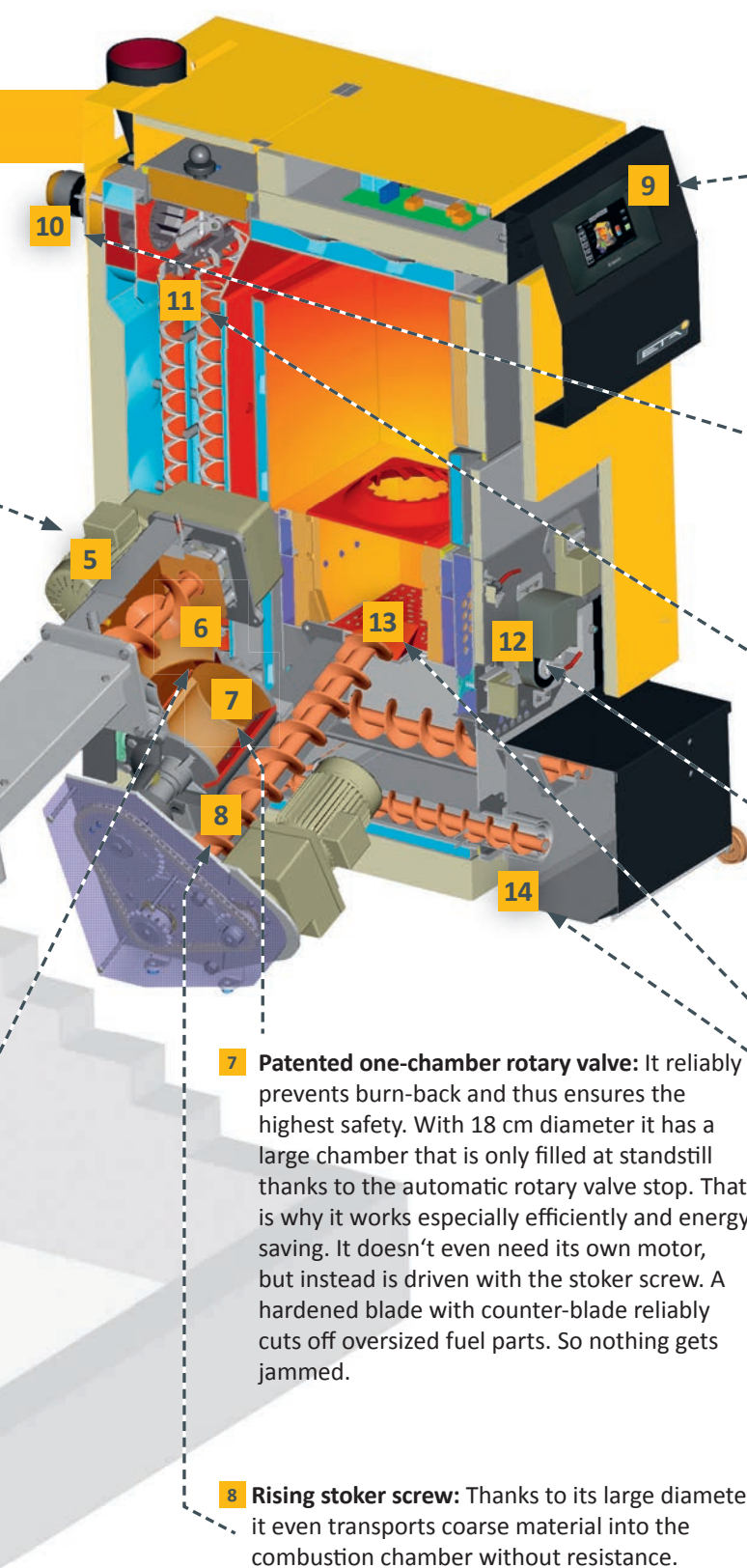
3 Open trough channel: Thanks to the generous trough cross-section, the fuel material remains loose during transport from the store to the boiler – and it doesn't matter if it's pellets or coarse wood chips. Blockages are extensively prevented, conveying is quiet, low wear and power-saving.

4 Flexible building block system: Discharge of the fuel material can be flexibly arranged depending on room situation. Installation is quick and easy, the components do not have to be cut or welded, as they can simply be connected with the friction-locked PTO shaft.

5 Spur gear motors: They drive the whole transport system including the agitator. Thanks to active power monitoring, the control system immediately detects if too much force is applied to the transport, i.e. a blockage has occurred somewhere in the system. Then the rotation direction of the screw is changed up to three times to loosen the material.

6 Ball joint connection to drop chute: It ensures a flexible connection between transport system and boiler. The inclination and angle can be flexibly adapted to the structural situation. A built-in seal ensures clean operation without dust escaping.





9 Touch control system with microprocessors:

With just a few swipes of your finger you intuitively control the whole menu. If your boiler is connected to the internet, it tells you by email when the ash box has to be emptied, for example. Furthermore, you can use the free communication platform meinETA with partner network as well as free software updates via USB connection.

10 Draught fan: Quiet as a whisper, this

fan ensures underpressure in the boiler. Additionally, it controls the air quantity and thus ensures safety in the boiler room. In contrast with conventional systems, no additional pressure blower is required. That saves energy!

11 Heat exchanger cleaning: The heat exchanger

is completely automatically cleaned with turbulators. This ensures high efficiency.

12 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.

13 Hot combustion chamber: To fully free the combustion chamber of ash, the grate automatically tilts at an angle of over 90° so that the ash can fall down smoothly. Therefore the operation is not impaired by foreign bodies in the ash, for example stones or nails.

14 Fully automated de-ashing in an external ash

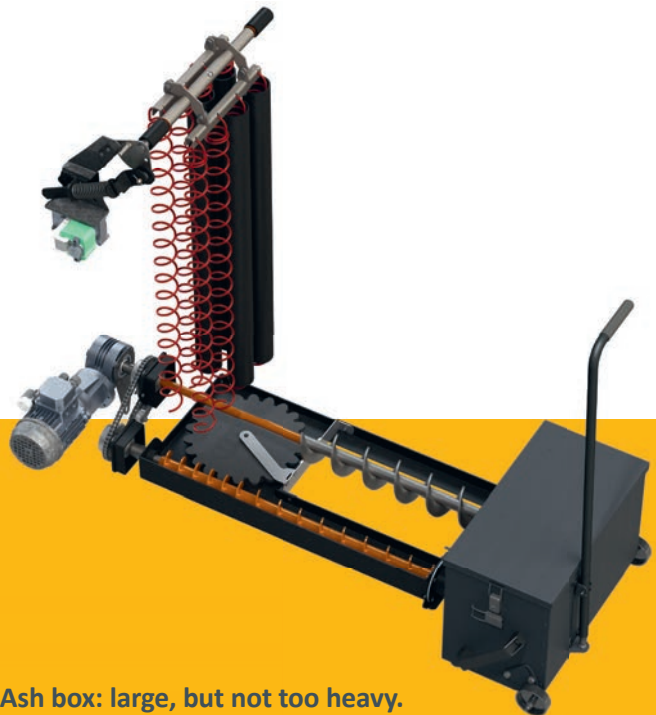
box: The ash is transported out of the heat exchanger and the combustion chamber to the ash box via two separated screws but one common drive and compressed there so that the ash box has to be emptied less frequently than with conventional systems. It can be accessed easily and comfortably.

7 Patented one-chamber rotary valve: It reliably prevents burn-back and thus ensures the highest safety. With 18 cm diameter it has a large chamber that is only filled at standstill thanks to the automatic rotary valve stop. That is why it works especially efficiently and energy-saving. It doesn't even need its own motor, but instead is driven with the stoker screw. A hardened blade with counter-blade reliably cuts off oversized fuel parts. So nothing gets jammed.

8 Rising stoker screw: Thanks to its large diameter, it even transports coarse material into the combustion chamber without resistance.

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.



Automatic de-ashing: conclusively progressive

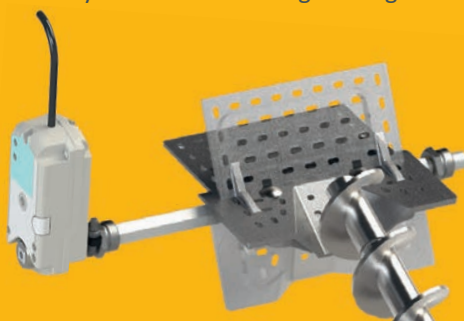
As the screw for de-ashing is about the same size as the stoker screw, foreign bodies such as stones or nails in the ash are no problem either.

Heat exchanger cleaning: permanently high efficiency. A special mechanism that is applied with a pressure spring cleans the heat exchanger pipes and allow fly ash that occurs to fall down with a return movement. Clean and efficient! The falling ash is picked up from large areas of 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 de-ashing 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.

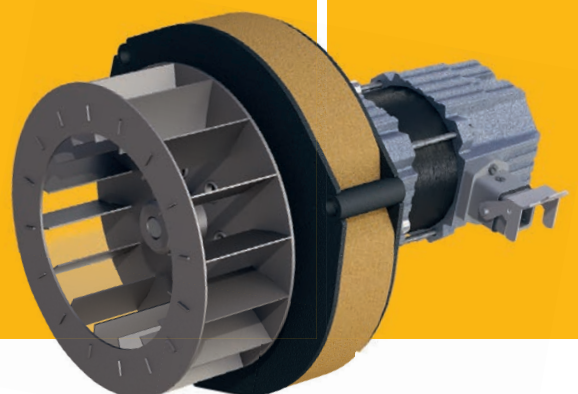
Long-lasting tilting grate. The combustion material is easily pushed into the combustion chamber from the side. If foreign bodies such as nails and stones are located in there, these do not impair the operation. The fully automated cleaning of the grate runs smoothly.



thly too. The tilt angle lies above 90°, so that the ash can fall down with possible foreign bodies.

Complete combustion. The boiler automatically determines when to de-ash. It calculates its earliest and latest possible de-ashing date from the fuel quantity burnt since the last de-ashing. Within this time interval the control system itself chooses the ideal time to introduce a controlled combustion. Only when the flue gas temperature sensor and the lambda probe report that the fuel material has been completely used may the grate be tilted.

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!



From the store into the boiler

A good wood chip boiler needs no maintenance, the fuel transport functions fully automatically. The ETA discharge system ensures that this also works smoothly and without blockages for coarse wood chips.

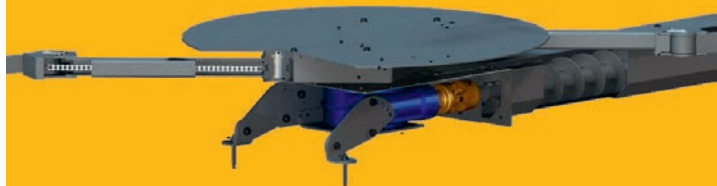


The freewheel joint ensures that the motor can change direction to loosen blockages in the transport screw, without the floor agitator also rotating in the wrong direction.

Easy also for large pieces

With the ETA Hack you can also burn coarse wood chips (P31S). The ETA discharge system easily produces pieces with a length of up to 12 cm. Special progressive screws are responsible for the smooth transport from the store into the boiler. So that there are not stoppages – above all in the transition from the open trough in the store to the closed trough outside - the distance between the individual windings of the transport screw is increased. This loosens the material and a quiet, smooth, power-saving material flow is guaranteed.

No standstill, it does jam up If a material jam occurs regardless, the flow monitor notes this immediately in the control system and moves the screws in the other direction until the material has come loose and the fuel transport can proceed unhindered. To make sure the flat springs are not damaged, the agitator may not move in the counter-direction at the same time. The articulated arm ensures this: If the screws move backwards, the floor agitator is automatically decoupled from the motor.



In store rooms with diameters from 4 to 6 metres, the agitator is reinforced with an articulated arm. This means that fuel material on the edge of the store room is optimally picked up too.

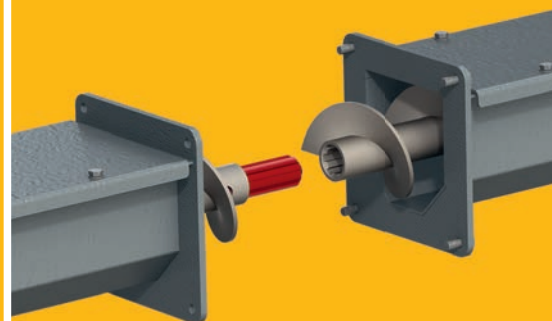
Always optimum fuel pick-up

Floor agitators with strong flat springs for store rooms between 1.5 and 4 metres diameter, each made to fit in half-metre steps. For rooms of up to six metres, ETA offers articulated arm technology with a specially reinforced agitator

The flexible system

For connecting screws, any length is possible up to six metres with standard parts – and in 125 mm intervals. The parts do not need to be welded or cut, but just plugged together.

No on-site welding and cutting: The parts of the discharge systems are simply plugged together as needed.





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

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.



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

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 HACK 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 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.



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. The ETA HACK also comes 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*

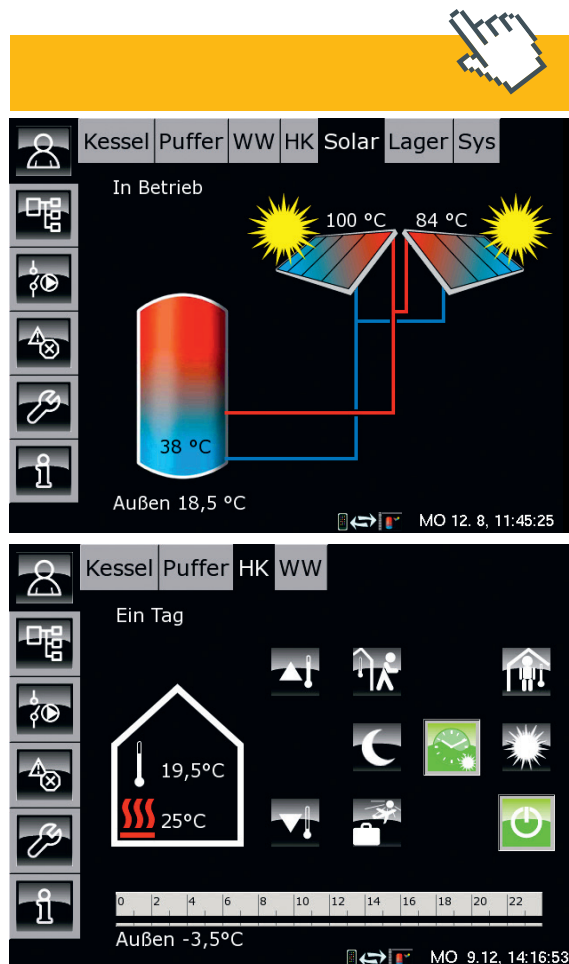
Is made possible both via the ETA fresh water module but also via the hot water tank or combi storage. For all variants, circulation pumps can be controlled with time and/or requirement programs.

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 self-explanatory. Making control of the heating system child's play.

Additional system functions**

External heat detection and/or switching, thermostat or differential temperature thermostat, display of up to five freely selectable temperatures, heat request from external devices as well as heating pipeline(s) with or without mixer.

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 specialises in the manufacture of biomass heating, that is log, wood 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

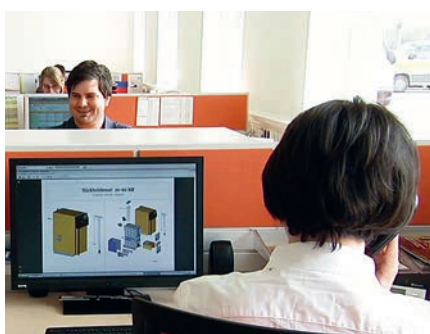
Wood is our oldest fuel - and our most modern: There is a lot of history in-between open fires in front of caves and modern biomass boilers. In the middle of the 20th century, the number of wood heating systems fell briefly. Oil was the new heating hype. A brief interlude in comparison to the consistency of wood. Today, we know that heating with fossil fuel damages the environment and is much too expensive. 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

Starting in 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 capacity of over 25,000 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 biomass boiler from ETA is choosing sustainability. And not just in terms of fuel. ETA shows responsibility across the board. More than 230 employees in Hofkirchen at the 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.

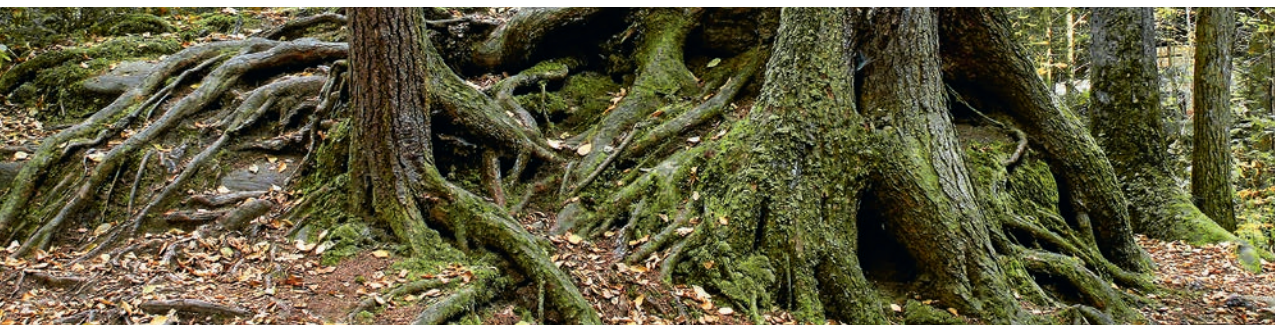
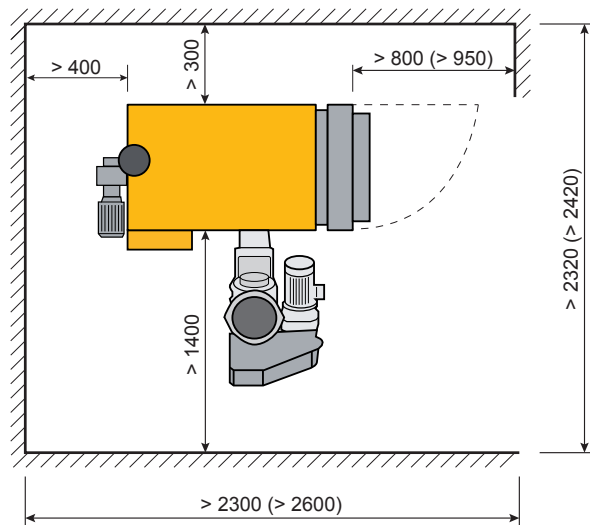
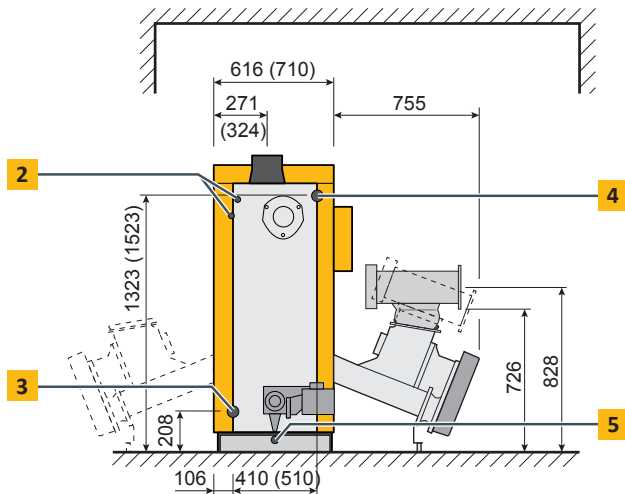
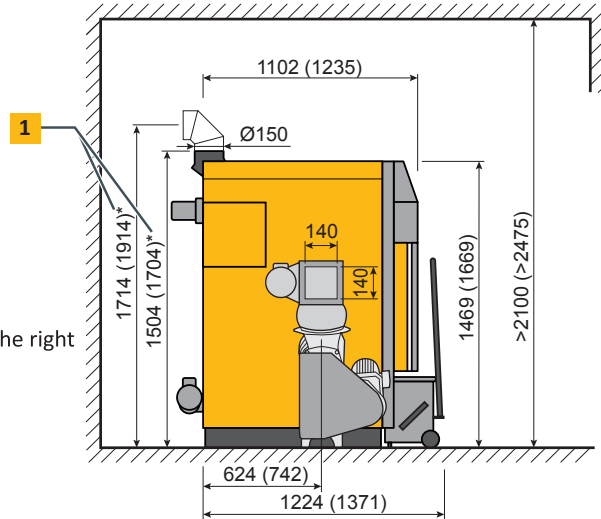


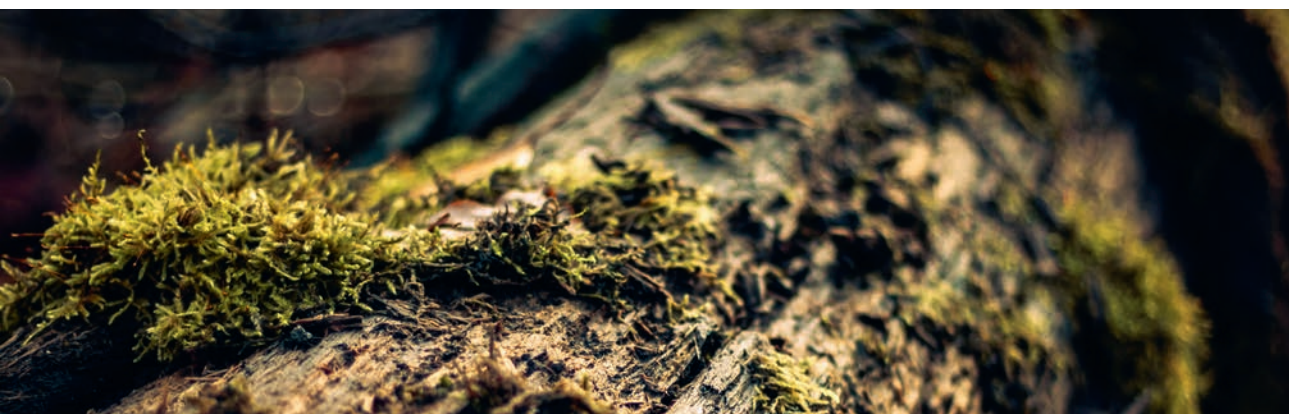
The 20 - 90 kW ETA wood chip boiler

- 1** Flue connections with flue gas recirculation are higher by 65 mm
- 2** Safety heat exchanger R1/2" outside thread
- 3** Return with coupling R5/4" (R 6/4")
- 4** Flow with R5/4" (R6/4") coupling
- 5** Discharge with R1/2" coupling

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

Dimensions in parentheses apply for the boilers with 70 and 90 kW.





Wood chip boiler	Unit	20 kW	25 kW	35 kW	50 kW	70 kW	90 kW
Rated capacity, wood chips M25 BD 150 (W25-S160)	kW	5.9 - 19.9	7.7 - 26.0	10.5 - 35.0	13.6 - 49.5	21.0 - 70.0	26.0 - 88.0
Rated capacity, pellets	kW		7.7 - 26.0	10.5 - 35.0	13.6 - 49.5	21.0 - 70.0	27.0 - 95.0
Efficiency with wood chips at partial / full load*	%	92.8 / 92.7	92.9 / 92.2	92.1 / 91.7	90.9 / 91.0	93.0 / 92.4	94.3 / 93.3
Pellets efficiency at partial / full load*	%		90.6 / 93.8	90.6 / 93.0	90.6 / 91.7	91.7 / 92.4	92.5 / 93.3
Transport dimensions, W x D x H	mm	710 x 1,102 x 1,504				810 x 1,235 x 1,704	
Transport width with panels removed	mm	590				690	
Weight with rotary valve stoker / without rotary valve stoker	kg	735 / 590	735 / 590	736 / 591	737 / 592	999 / 854	999 / 854
Water content	Litres	117				196	
Water-side resistance (ΔT = 20 °C)	Pa / mWs	90 / 0.009	160 / 0.016	280 / 0.028	550 / 0.055	570 / 0.057	900 / 0.090
Ash box volume	Litres	35				44	
Required flue draught at partial/full load	Pa	>2 / >5 a flue draught limiter is required over 15 Pa					
Electrical power consumption with wood chips at partial / full load*	W	73 / 129	91 / 147	109 / 195	129 / 254	144 / 292	167 / 396
Electrical power consumption with pellets at partial / full load*	W	67 / 98		70 / 112	73 / 123	100 / 157	97 / 190
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		Wood chips ISO 17225-4, P16S-P31S (G30-G50), maximum water content 35% [M]; Miscanthus ÖNORM C4000 and C4001; Pellets ISO 17225-2-A1, ENplusA1					
Electrical connection		400 V AC / 50 Hz / 13 A / 3 P + N + PE					

*Data from test reports by BLT Wieselburg



entspricht
EU-Normen



BLT Wieselburg
Österreich



TUV
Süd Deutschland



Qualitätssiegel
Holzenergie
Schweiz



Österreichisches
Umweltzeichen



Blaue Engel



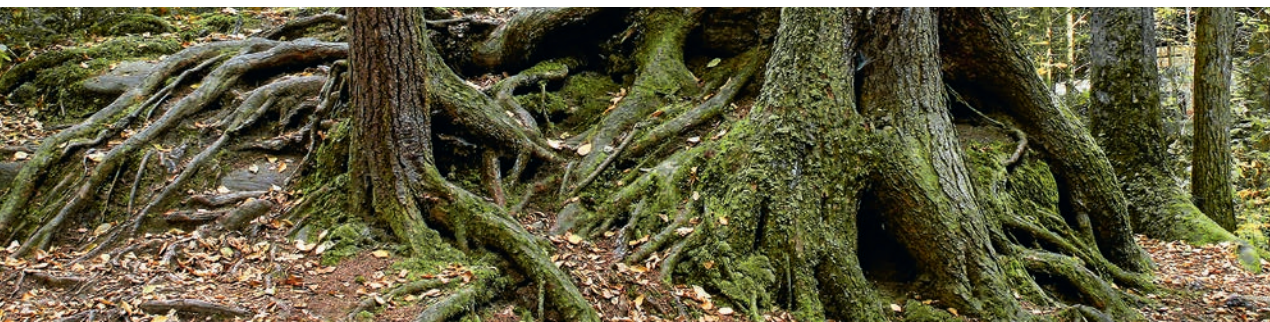
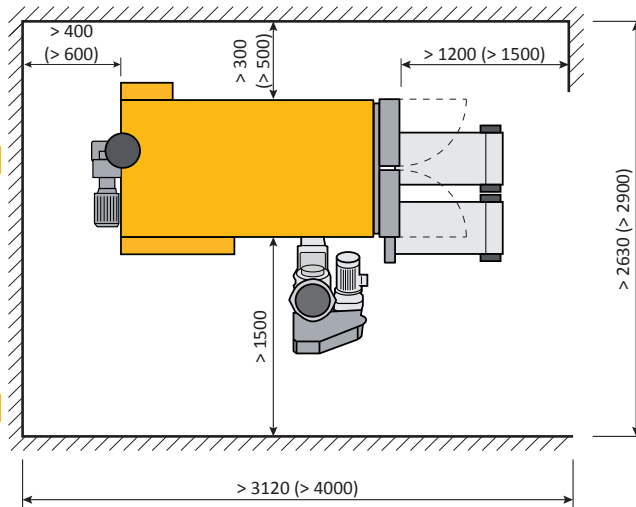
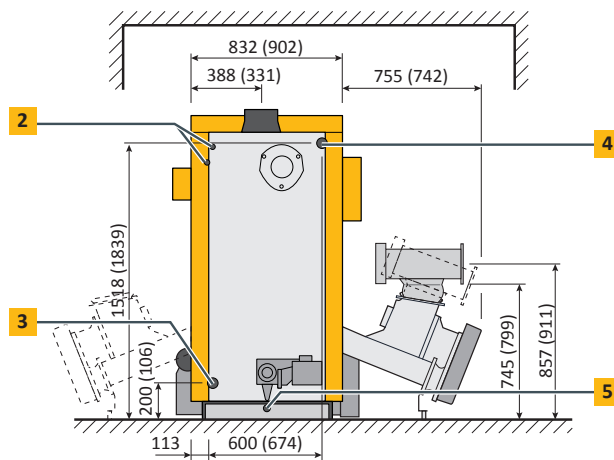
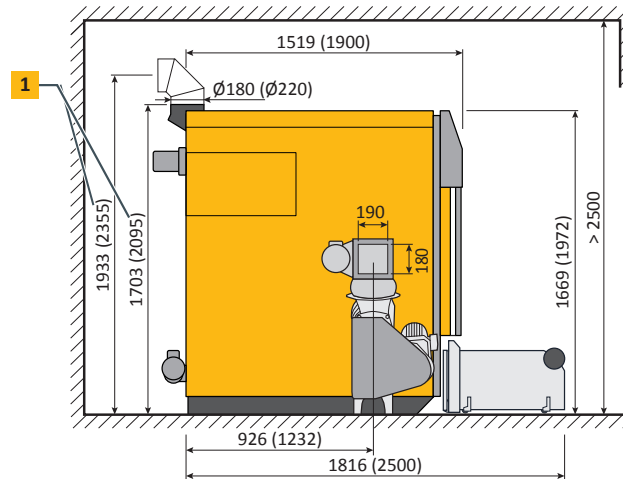
Institut für
Brandschutz

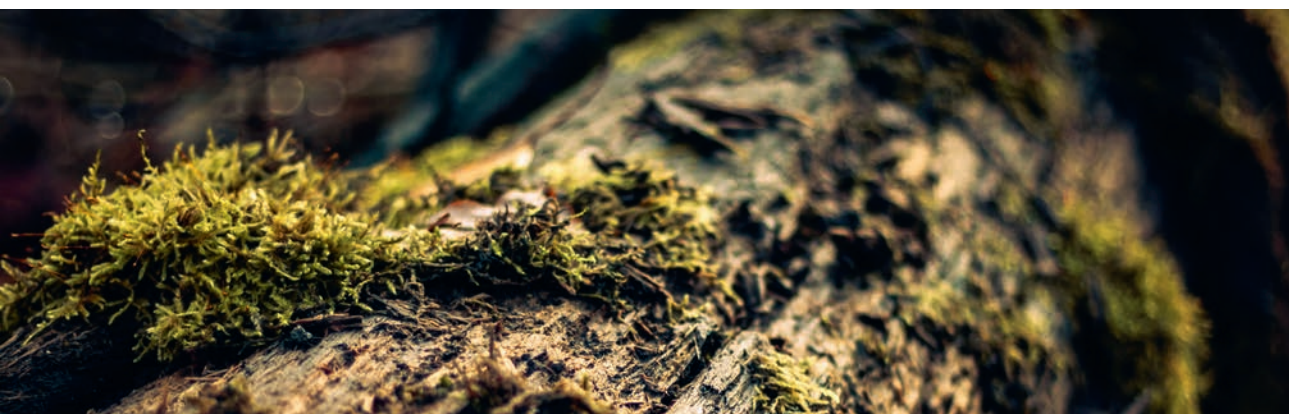
Der ETA-Hackgutkessel 130 - 200 kW

- 1** Flue connections with flue gas recirculation are 65 mm higher (130 kW)
- 2** Safety heat exchanger R1/2" outside thread
- 3** Return with coupling R2"
- 4** Flow with coupling R2"
- 5** Discharge with coupling R1/2"

Dimensions in parentheses apply for the boiler with 200 kW.

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





Wood chip boiler	Unit	130 kW	200 kW
Rated capacity, wood chips M25 BD 150 (W25-S160)	kW	38 - 133	56 - 195
Rated capacity, pellets	kW	39 - 140	66 - 220
Efficiency with wood chips at partial / full load*	%	94.8 / 92.7	93.5 / 92.3
Pellets efficiency at partial / full load*	%	92.0 / 91.7	91.1 / 91.1
Transport dimensions, W x D x H	mm	930 x 1519 x 1703	1106 x 2100 x 2020
Transport width with panels removed	mm	790	865
Weight with / without rotary valve and stoker	kg	1334 / 1189	1950 / 1800
Water content	Litres	290	448
Water-side resistance ($\Delta T = 20\text{ }^{\circ}\text{C}$)	Pa / mWs	1600 / 0.160	1700 / 0.170
Ash box volume	Litres	110	2 x 80
Required flue draught at partial/full load	Pa	>2 / >5 draught limiter required over 15 Pa	
Electrical power consumption with wood chips at partial / full load*	W	178 / 458	195 / 535
Electrical power consumption with pellets at partial / full load*	W	103 / 199	118 / 300
Maximum permissible operating pressure	bar	3	
Temperature adjustment range	$^{\circ}\text{C}$	70 – 85	
Maximum permissible operating temperature	$^{\circ}\text{C}$	95	
Minimum return temperature	$^{\circ}\text{C}$	60	
Boiler class		5 acc. to EN303-5:2012	
Suitable fuels		Wood chips ISO 17225-4, P16S-P31S (G30-G50), maximum water content 35%[M]; Miscanthus ÖNORM C4000 and C4001; Pellets ISO 17225-2-A1, ENplusA1	
Electrical connection		400 V AC / 50 Hz / 13 A / 3 P + N + PE	

*Data from test reports by BLT Wieselburg,





ETA PU PelletsUnit 7 to 15 kW



ETA PC PelletsCompact 20 to 50 kW



ETA PE-K Pellet Boiler 35 to 90 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 600-5.000 litres



ETA Hydraulic Interface Units

INNASOL
SUPER POWER

Innasol Ltd.
Reigate Barn,
Langford Road
Wickham Bishops, Essex CM8 3JG
Phone: +44 (0) 1621 / 892 613
info@innasol.com
www.innasol.com

Your heating specialist will be happy to advise you

ETA η
...mein Heizsystem

ETA Heiztechnik GmbH
Gewerbepark 1
4716 Hofkirchen a. d. Tr., Austria
Tel.: +43 (0)7734 2288-0
Fax: +43 (0)7734 2288-22
info@eta.co.at
www.eta.co.at

Technical changes reserved

In order to provide you the benefits of our continuous development, we reserve the right to change specifications without prior notice. Printing and typesetting errors or changes of any kind made in the interim are not cause for claims. Individual configurations depicted or described here are only available as options. In the event of discrepancies between individual documents regarding the scope of delivery, the information provided in our current price list shall prevail. Images and symbols may contain options that are available for an additional cost.

Photo source: ETA Heiztechnik GmbH, Lothar Prokop Photographie, istockphoto, Thinkstockphotos, Photocase, Shutterstock.

Hackgütessel ETA HACK EN, 2015-06

