



... my heating system

PelletsUnit
ETA PU 7 to 15 kW
The small "smart" pellet boiler.



A Passion for Perfection.

www.eta.co.at

PelletsUnit ETA PU 7 to 15 kW

Technology meets Design



Colour touch screen

Easy boiler operation with full weather compensation control

The 5.7" touch screen leaves you in complete control. Information, command input or simply room temperature adjustment at a touch. The colour touch screen operation, similar to modern mobile phones, leads to intuitive check and changing of heating times, fuel stock monitoring, operational data, etc...

Remote control of the unit via SMS (with optional GSM module) offers complete flexibility. Boiler software updates are possible through the integrated USB slot.



3 attractive front panel upgrades - select and exchange the boiler front panel at any time

The new PelletsUnit is supplied with the „Ice Grey Metal“ as the standard external panel design - plain, pure and noble. However, you can choose different panel finishes to suit your home, „Anthracite Metal“ and „Dark Wood“ are warm and cosy whereas the „Black Leather“ finish is piping hot for the more adventurous. It's your choice and changing the design is as simple as replacing the front panel.



Complete – inside and out

Lambda control, automatic ignition, integrated return temperature riser control, low power circulation pump with mixing valve, expansion vessel (18 litres), 3 bar safety valve and switch-over valve for the hot water tank are included as standard in the boiler! There is an option for fitting a second mixing heating circuit with it's own flow/return. This "all inclusive" boiler is thus characterised by lower installation costs (electrical and plumbing), smaller dimensions (w 105 x d 58 x h 107 cm) and revolutionary design.

The new ETA PU does not require a separate boiler room – a storage room or utility room is sufficient, as the new Pellets Unit can be installed with independent combustion air supply. Installation in sealed buildings (e.g. buildings with heat recovery systems) is possible.



Clean solution

Fully automatic boiler deashing with integrated cleaning system.

The ash tray only needs emptying twice a year, afterwards it simply disappears back behind the front door panel **with its space saving, semi-automatic opening mechanism.**



PelletsUnit ETA PU

Small and smart

Compact and complete! A boiler room in the boiler install, connect – ready!

You haven't got enough space for a boiler room? We have a PelletsUnit for you that no longer requires a separate boiler room.

An external boiler room outside of the insulated shell – for example in the garage – loses heat. In energy-saving houses where the boiler is installed within the insulated shell, this can save between 5 and 15% on fuel costs. Installation in a utility room or dining room replaces the traditional boiler room setup. To make this possible the ETA PU 7 to 15 can be operated with an independent combustion air supply.

Therefore it is possible to install within a fully air sealed building.

A storage hopper for the pellets of 1.6 x 1.6 metres or 2.5 x 1.0 metres in the cellar, in the loft, in a small annex or in an unused corner of the house is sufficient.

An underground tank or a sack silo for the storage of the pellets is also possible. The pellets are conveyed once a day via two plastic hoses to the boiler – therefore the boiler can be positioned at the other side of the house from the pellet silo!

Commands with intuitive touch!

On the touch screen, the display and the controls melt into one unit. Pictures and text that accept commands at the touch of a finger enable a simple, direct dialogue between boiler and operator.



Advantages at a glance

①

- **Pump, mixer and change-over valve** for a heating circuit and hot water supply are **integrated** into the PelletsUnit; a pump and mixer for a second heating circuit can be fitted as an optional extra.
- **Underfloor heating** can be connected **directly** to the boiler without the need for an external mixing valve and return temperature riser (up to optimally 80m, max. 100m pipe length for each flow outlet).
- All **fittings** required for safe operation such as **expansion vessel (18 litres), 3 bar safety valve, auto vent and water level sensor** (minimum pressure) are integrated into the boiler **ready for operation**.
- A separate boiler room with an external air vent is not required.
- **Patented rotating grate** with self-cleaning function stirs the fire and ensures best possible fuel utilisation.
- **Hot stainless steel combustion chamber** guarantees optimum combustion throughout all boiler loads ranges.
- **Lambda probe** ensures the highest possible efficiency with the lowest possible emissions by means of adapting combustion air flow to suit various energy density grades of wood pellets (conifer wood or hard wood, coarse or fine grain) and to the capacity requirement of the boiler.
- **Rotary valve** guarantees the highest burn-back protection; feeding pellets to the rotary valve by means of a metering screw prevents any wear of the rotary valves sealing edges.
- **Automatic heat exchanger cleaning** guarantees consistently high efficiency.
- Clean and **automatic full de-ashing** to a detachable, external ash container.
- Due to the **fluid heat exchanger**, no external return temperature rise control is required, thus saving installation and operating costs (electricity).
- **No thermal safety valve required.**
- **Operation via touch screen** by means of intuitive touching of the images on the LCD panel.
- **Free software update** possible **throughout integrated USB connection.**
- **Microprocessor control** with all necessary functions for the control of the entire heating system: two mixed heating circuits, hot water supply, circulation pump, buffer management and solar unit.
- The **measurement and status feedback of all items** such as induced draught fan speed, residual oxygen, exhaust gas temperature, heating water pressure or power consumption of all motor guarantees monitored and safe operation.

ETA Technology

Well-conceived down to the last detail

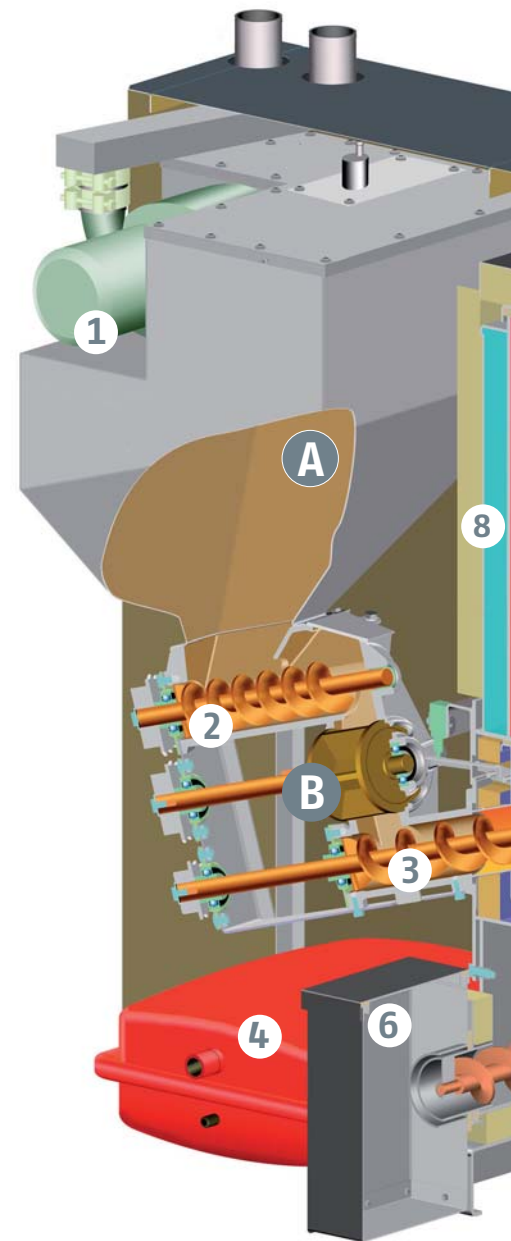
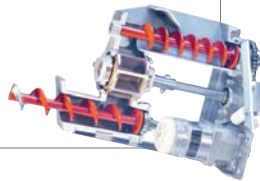
A Intermediate pellet container

within the boiler, 30 kg capacity, reduces the time required to 10 minutes for conveying pellets from silo to boiler once a day. The feed time can be easily selected through the control panel.



B Pellet feed with rotary valve

guarantees absolute burn-back protection. The pellets are conveyed from the intermediate container into the rotary valve through the metering screw. Hence, no pellets must be cut off: this means quiet and power-saving operation – wear of the sealing edges is prevented. The burn-back protection is reliably maintained over the entire service life of the boiler.



1 Pellet suction turbine

2 Metering screw

3 Stoker screw

4 Expansion vessel

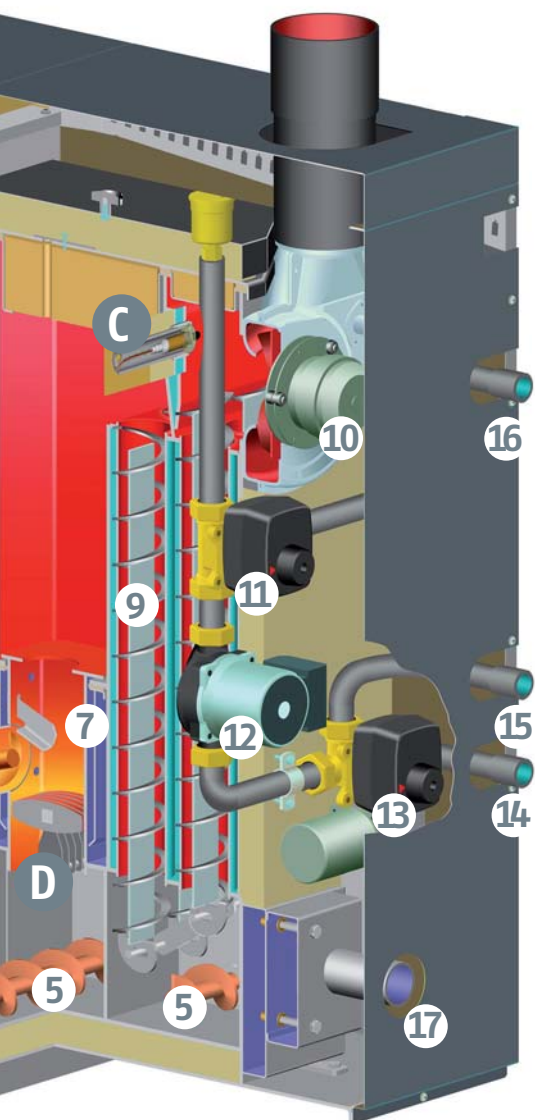
5 Ash screws

6 Detachable ash box

7 Hot stainless steel combustion chamber

8 Fluid heat exchanger with integrated return temperature riser control

9 Heat exchanger with automatic cleaning function



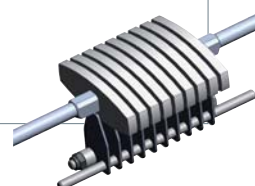
C *Lambda probe*

With the aid of the Lambda probe, the control system of an ETA boiler measures the remaining oxygen in the exhaust gas and adapts the fuel feed and the air supply to the energy density of the fuel and the required capacity of the boiler.



D *Patented rotating grate with cleaning rake*

self-rotating grate that continuously de-ashes during operation. A cleaning rake reaches between the grate disks removing any possibly clinging ash. The grate is therefore maintenance-free. The result is a high pellet burnout with low ash quantities and optimum fuel utilisation.

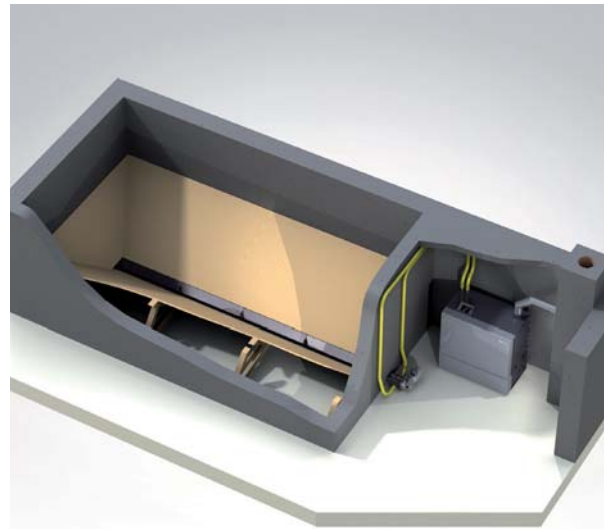


- | | |
|---|--|
| 10 Induced draught fan | 14 Flow - heating circuit |
| 11 Flow mixer valve | 15 Flow - hot water cylinder |
| 12 Low power circuit pump | 16 Return - heating circuit and HWC |
| 13 Change-over valve
Hot water storage tank load | 17 Connection for external combustion air feed |

Systematic storage and conveying

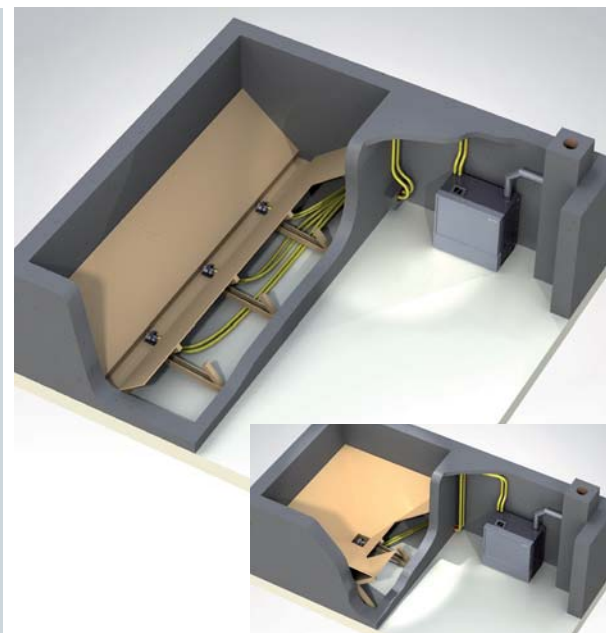
Storage hopper with discharge screw

For our standard solution we have combined the advantages of two systems: Reliable discharge and complete pellet removal via auger from the hopper to a vacuum system that can be adapted to any room situation using flexible hoses from the pellet hopper to the boiler. The vacuum turbine integrated into the boiler can master a distance of up to 20 metres from the hopper with a height difference of up to two storeys without any problem. For 15 kW's pellets need only be transported for a period of 10 minutes once a day. An existing room – even an existing oil tank room – can be transformed into an usable pellet hopper. A modular auger system up to a max. of 5m in length. Advantages: easy assembly and high flexibility, quiet operation.



Storage hopper with pneumatic discharge

ETA offers a pneumatic discharge system with up to three suction probes for storage rooms in which the installation of an auger presents problems. The probes are combined into one system by means of an automatic switch-over unit mounted in the wall breakthrough. The connection of the probes to the switch-over unit takes place by means of flexible hoses; thus the suction points can be freely adapted to the surrounding conditions.



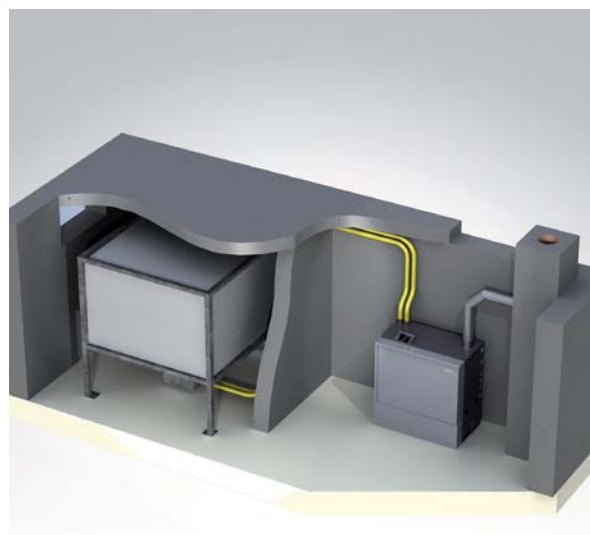
Storage in a sack silo

In the case of a storage room not being available but with a sufficiently sized installation room (please observe the respective fire/building regulations of your country), our sack silo system offers an option for pellet storage.

The advantages: easy assembly, flood-resistant and dust-proof; even outdoor installation is possible with appropriate protection against rain and UV radiation.

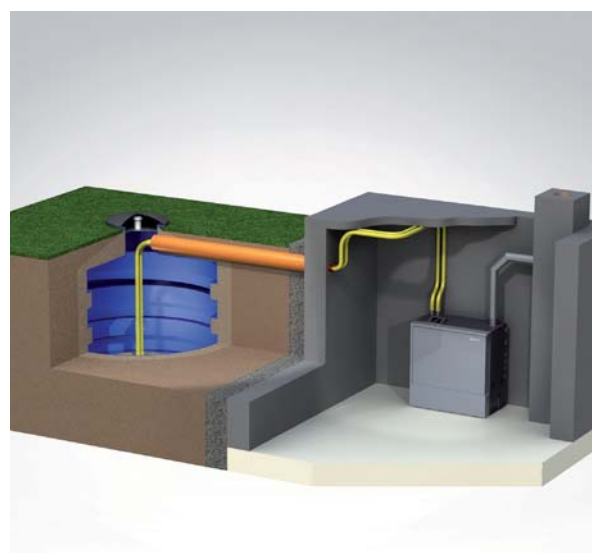
Our pellet silo "ETAbox" – is height adjustable at 100mm intervals (height: 1.8 to 2.5 m) and is available in 3 sizes:

Foot Print: 1.7 x 1.7 m
 2.1 x 2.1 m
 2.5 x 2.5 m



Storage in underground tanks (outdoors)

If there is no room indoors for a storage hopper, there is the option of an outdoor underground tank. These tanks are offered on the market as underground pellet tanks with lance or mole extraction, which are compatible with our suction system.



PelletsUnit ETA PU 7 to 15 kW

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The future in your own home

The future in your own room

As you know, the environmental value of wood pellets is vastly superior to fossil fuels such as oil or gas. The PelletsUnit was awarded the Innovationspreis EnergieGenie 2008 (Innovation Award for Energy Genius) of Upper Austria; awarded by the Federal Ministry of Agriculture and Forestry.



„Der Blaue Engel“ (The Blue Angel)

In 2009, the PelletsUnit was given the first and oldest environmental distinction in the world for products and services. The Blue Angel promotes both environmental and consumer protection concerns.



Special planning notes

Hot water supply near the kitchen

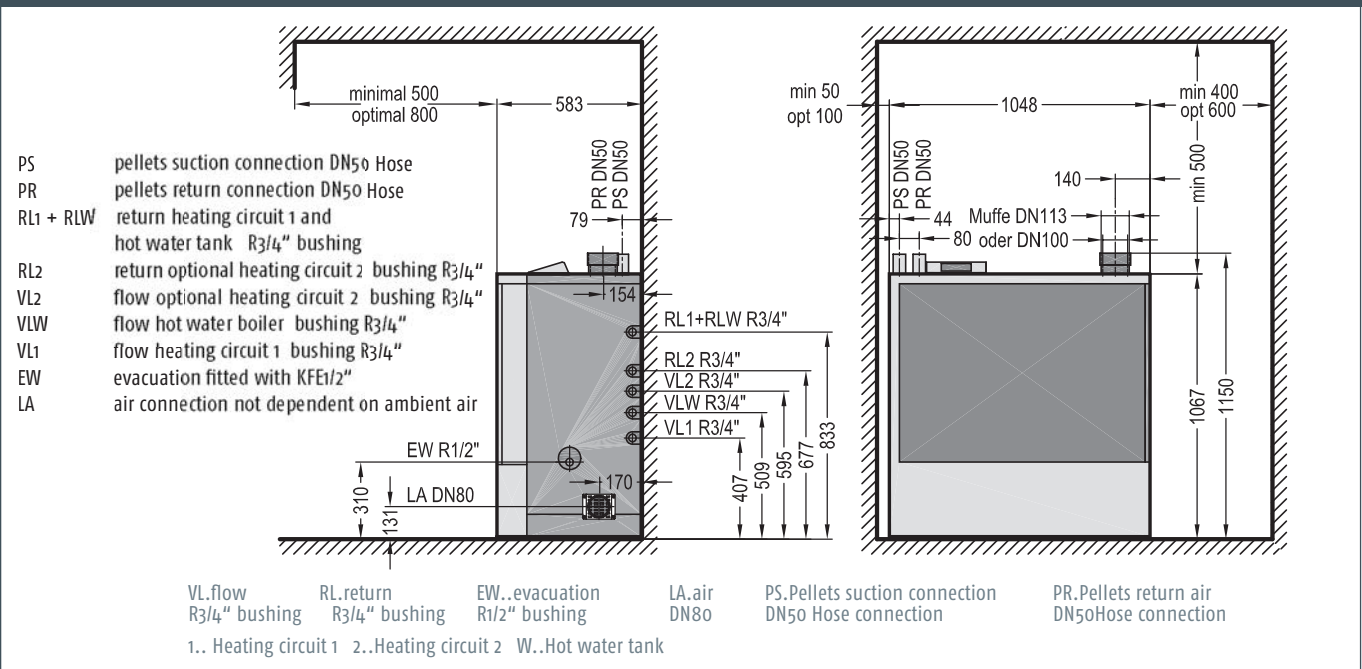
The energy-saving installation of the heating system requires a change of thinking, also with regard to hot water. A place within the living area should be found for the tank near to the kitchen and bathroom. Hot water is frequently needed in the kitchen during the course of the day. Hot water circulation may be omitted if the tank is positioned near the kitchen sink.

Sufficiently sized cylinder volume

In order to avoid intermittent boiler operation with poor efficiency while heating domestic hot water, a sufficiently sized HW Cylinder is required. Similar to gas boilers, a minimum volume of 120L is required. For comfort, a larger volume of at least 200L is recommended.



PelletsUnit ETA PU 7 to 15 kW



Technical Data PelletsUnit ETA PU

			7	11	15
Nominal heat output range		kW	2,3 - 7,7	2,3 - 11,2	4,4 - 14,9
Boiler efficiency partial/nominal load* (installation outside living area)		%	89,3 / 93,4	89,3 / 92,5	95,7 / 93,5
Radiation losses in the installation room partial/nominal load		%	8,2 / 3,6	8,2 / 4,0	1,7 / 1,9
Combustion efficiency (installation within the living area)		%	97,5 / 97,0	97,5 / 96,5	97,4 / 95,4
Exhaust gas losses partial/nominal load		%	2,5 / 3,0	2,5 / 3,5	2,6 / 4,6
Boiler dimensions W x D x H		mm	1.048 x 583 x 1.067		
Weight		kg	246		
Water content		lt	27		
Free remaining conveying height of the pump Δ T=7°C			2,8 mWS 0,9 m³/h	1,9 mWS 1,3 m³/h	2,0 mWS 1,8 m³/h
			100 m maximum, better 80m FB-heating pipe length per distributor outlet for radiators depending on flow temperature speed-controlled		
Pellet intermediate container at the boiler (net)			30 kg (147 kWh)		
Maximum distance boiler pellets hopper		m	20		
Ash container		lt	12		
Exhaust gas mass flow partial/nominal load CO ₂		g/s	1,9 / 4,4	1,9 / 6,4	2,8 / 8,4
Content in dry exhaust gas partial/nominal load		%	10 / 14	10 / 14,5	12 / 14
Exhaust gas temperature partial/nominal		°C	75 / 100	75 / 110	70 / 120
Chimney draught			1 Pa at partial load / 3 Pa at nominal load required no draught limiter required up to 15 Pa		
Emissions, carbon monoxide (CO)	Partial/nominal load *	mg/MJ mg/m³ 13%O ₂	88 / 8 134 / 13	88 / 6 134 / 10	19 / 4 29 / 6
Emissions, dust (CO)	Partial/nominal load *	mg/MJ mg/m³ 13%O ₂	6 / 6 9 / 9	6 / 8 9 / 12	11 / 9 17 / 14
Unburnt hydrocarbons (CxHy)	Partial/nominal load *	mg/MJ mg/m³ 13%O ₂	<1 / <1 1 / <1	<1 / <1 1 / 1	<1 / <1 <1 / <1
Electrical power consumption	Partial/nominal load *	W	46 / 61	46 / 63	66 / 95
Max. permissible operating pressure	3 bar	Boiler class	3 nach EN 303-5		
Adjustment range temperature controller	30 - 85°C	Tested fuel	Pellets ÖNORM M7135, DIN 51731, DIN Plus		
max. permissible operating temperature	95°C	Electrical connection	1 x 230V / 50Hz / 13A		

* Values from test reports of BLT Wieselburg, protocol number 022/09, 023/09 und 036/09. Test reports of the Test Institute BLT Wieselburg can be found on the internet at: blt.josephinum.at



BLT Wieselburg Austria



TÜV South-Germany



Der blaue Engel



Quality seal wood energy Switzerland



Corresponds with European Standards



ETA PU PelletsUnit 7 to 15 kW



ETA PE Pellet boiler 15 to 25 kW



ETA PE-K Pellet boiler 35 to 90 kW



ETA SH Wood gasification boiler
20 to 60 kW



ETA TWIN Wood gasification boiler 20 and
30 kW with pellet burner 15 and 25 kW



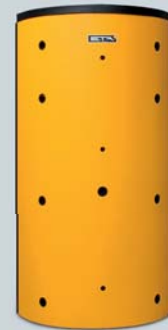
ETA BK Wood side boiler 15 to 23 kW



ETA HACK Wood chip boiler 20 to 130 kW



ETA HACK Wood chip boiler 200 kW



ETA Accumulator tank SP and SPS



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