



... my heating system

## ETA SH

*The log wood boiler with optimum fuel efficiency.  
20 to 60 kW*

## ETA SH-P with TWIN


*The flexible boiler.  
Heating with split logs or pellets.  
20 and 30 kW (SH-P)  
20 and 26 kW (TWIN)*



*A passion for perfection.*

[www.eta.co.at](http://www.eta.co.at)



A photograph of a woman and a young boy sitting together in front of a large pile of firewood. The woman, on the right, is wearing a white turtleneck sweater with a lace collar and is laughing joyfully. The boy, on the left, is wearing a dark sweater over a light blue collared shirt and is smiling. They are both holding hands. The background is a large pile of cut firewood, and the scene is lit with warm, golden light.

*Feel-good climate especially for you:  
Enjoy quality of life with a clear conscience.*

## *ETA*

### *A name born of conviction*

In the world of technology, the Greek letter "η", pronounced "eta", is a symbol for efficiency. Here at ETA, we have made it our goal to achieve "maximum efficiency".

### *A passion for perfection*

In our development of boilers for log wood, pellets and wood chips, our primary objective is the production of efficient and environmentally friendly technology. Clean emissions, minimal energy requirements, reliable functioning and simple operation – these are the fundamental characteristics of all our products. We work in the field of the very latest, state-of-the-art technology. Our visionary, forward-looking products provide the perfect combination of ecology, economy and technology.

### *Complete solutions*

Every ETA SH log wood boiler is equipped with a lambda probe and cleaning turbulators as standard. This minimises the emissions from your ETA SH boiler while ensuring maximum day-to-day efficiency throughout the entire heating season, whatever wood type you choose to use – be it spruce, poplar or beech.

### *Naturally efficient*

When unused wood decomposes in the forest, it produces the same level of carbon dioxide as it would if burned. Furthermore, the regrowing forest absorbs the same volume of carbon dioxide as is produced during wood burning. A log wood boiler is thus entirely carbon-neutral, working in perfect harmony with nature's carbon cycle.

#### **Subject to technical changes**

To ensure that you benefit from our latest technical developments, we reserve the right to make technical changes without prior notice. Printing and layout errors or changes that have been implemented in the meantime do not provide grounds for any claims. Specific equipment versions that are 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.



# ETA SH log wood boiler

## Convenient wood heating

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### Just add wood – no need for matches

When you open the outer insulating door, the quiet induced draught fan starts up automatically. You then open the charging door and add half-metre logs. A carbonisation gas extraction duct above the fuel chamber door prevents the escape of smoke and odours from the open boiler. The fuel chamber accommodates enough half-metre logs to ensure that refilling is only necessary once a day, or twice on cold winter days. When you close the fuel door, the wood is ignited by the remaining embers from the last fire. As a result, no paper, kindling or matches are required, nor is there any need for an automatic ignition. The heat exchanger is cleaned by a few pulls on the cleaning lever. The ash only needs to be removed from the boiler once a week, or every 14 days during transitional periods. It sounds simple because it is simple – after all, user-friendliness is paramount at ETA.



### Log wood and pellets

The SH-P model features connecting flanges (left and right) on the boiler body to enable the connection of a pellet burner, that activates automatically if no split log fuel is added over a specific period (adjustable duration, time of day or specific week day).



### Ambient temperature sensor requests replenishment

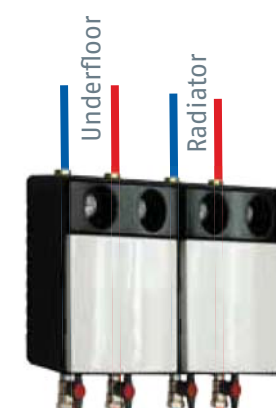
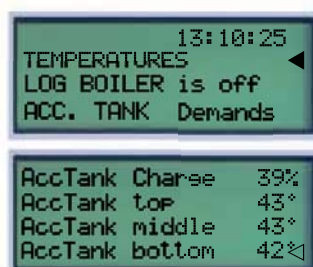
A red signal illuminates to indicate that fuel must be added.

Night and Day modes are very confusing in English, they are not used in relation to heating modes here. Better to say – “switch between OFF, TIMED or ON mode”



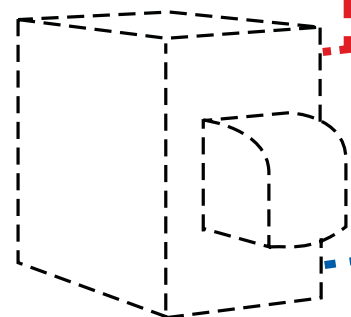
### Control system with four-line text display

Perfect overview of the entire heating system.



### Secure return riser

Charging the buffer with the speed-controlled pump releases the full flow temperature immediately after ignition, while a mixing-valve-controlled return riser prevents the condensing of flue gases in the heat exchanger as well as the associated boiler corrosion. The mixing valve control also enables utilisation of the residual boiler heat at the end of the combustion phase.



### An oil, gas or pellet boiler can also be integrated

If no wood is added for an extended period or no heating takes place up to a specific time of day, an oil, gas or pellet boiler can be activated by the wood boiler.



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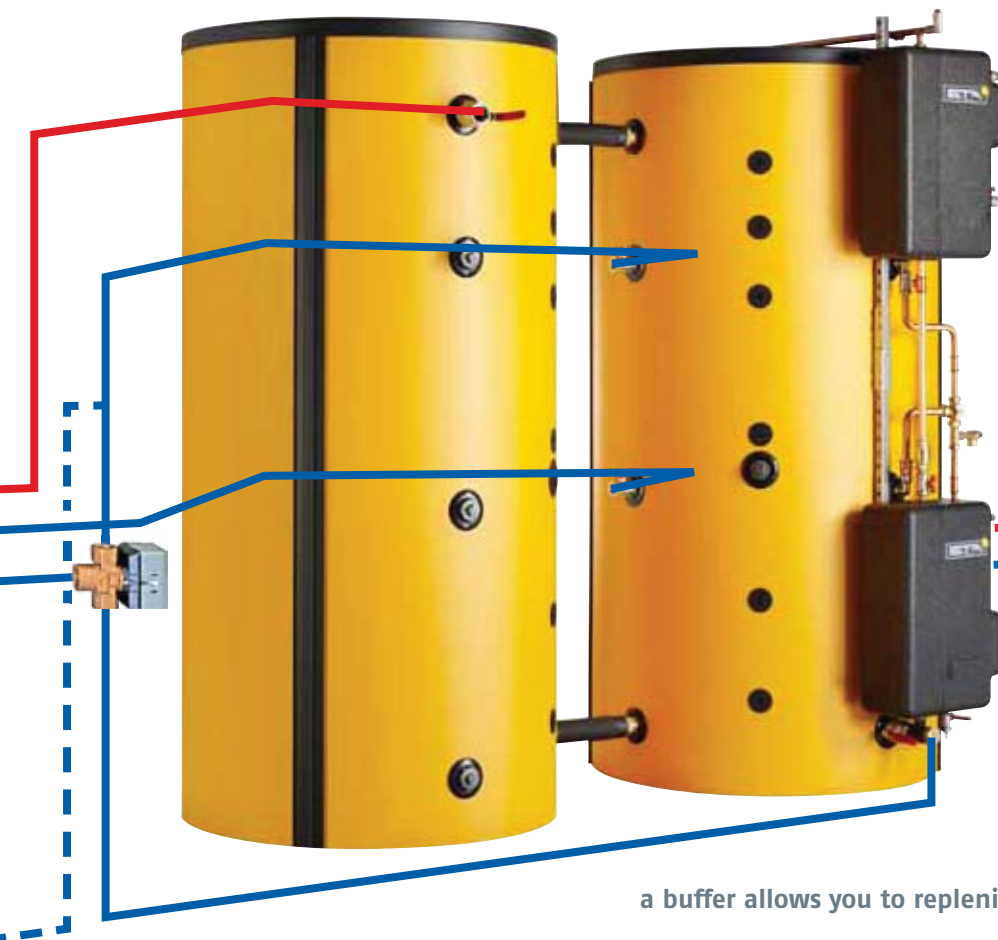
### Solar powered heating

With 8 to 12 m<sup>2</sup> solar panels (2 m<sup>2</sup> per person), you can let the sun produce your hot water in the summer. But even without a solar heating system, you can still rely on the optimum control of our system.

### Space-saving, hygienic hot water

With a fresh water module, hygienic hot water is produced precisely when needed and the water heating is integrated in the buffer, effectively minimising space requirements.

A conventional hot water tank can also be used, of course.



**In the case of low ceiling heights,** you can link two smaller buffer storage tanks.

**Whatever the season,** a buffer allows you to replenish fuel when you have the time

### Rapid heating

During ignition, the ETA buffer management reduces the buffer volume by means of start relief valve (optional accessory). Your home then benefits from the full boiler output and any residual heat from the upper buffer section is used to accelerate the heating process.

A wood fire cannot modulate down to low levels of operation and can struggle with low heating demands in autumn and spring. A buffer can store any excess boiler output, allowing the ETA control system to store heat in the buffer storage tank overnight. You will then be welcomed by a warm bathroom in the morning and can enjoy a relaxing breakfast before adding more fuel. In the summer, your warm water supply will only require heating every three or four days, or even once a week in combination with a fresh water module that better utilises the buffer with its low return temperatures.

The lower the return temperature to the buffer, the greater its heat storage capacity. For radiators, finely adjustable thermostatic valves can be used to optimise buffer utilisation.

# ETA SH

## A clean fire with maximum fuel efficiency

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### Wood gasification

Before wood can burn, it must first be converted into gas by the application of heat. The decomposition of wood into 20% charcoal and 80% wood gas begins at 200°C, which explains the long gas flame of a wood fire.

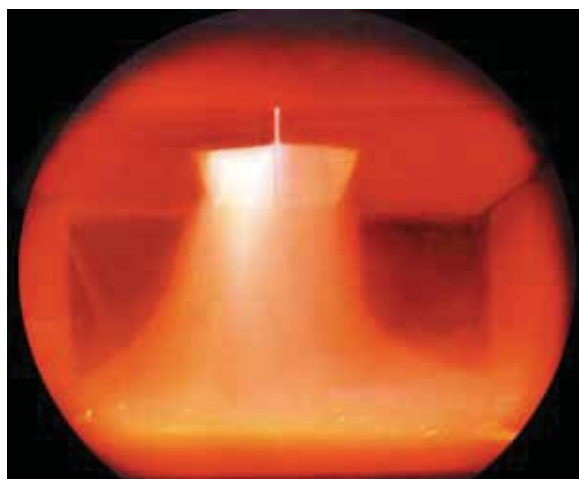
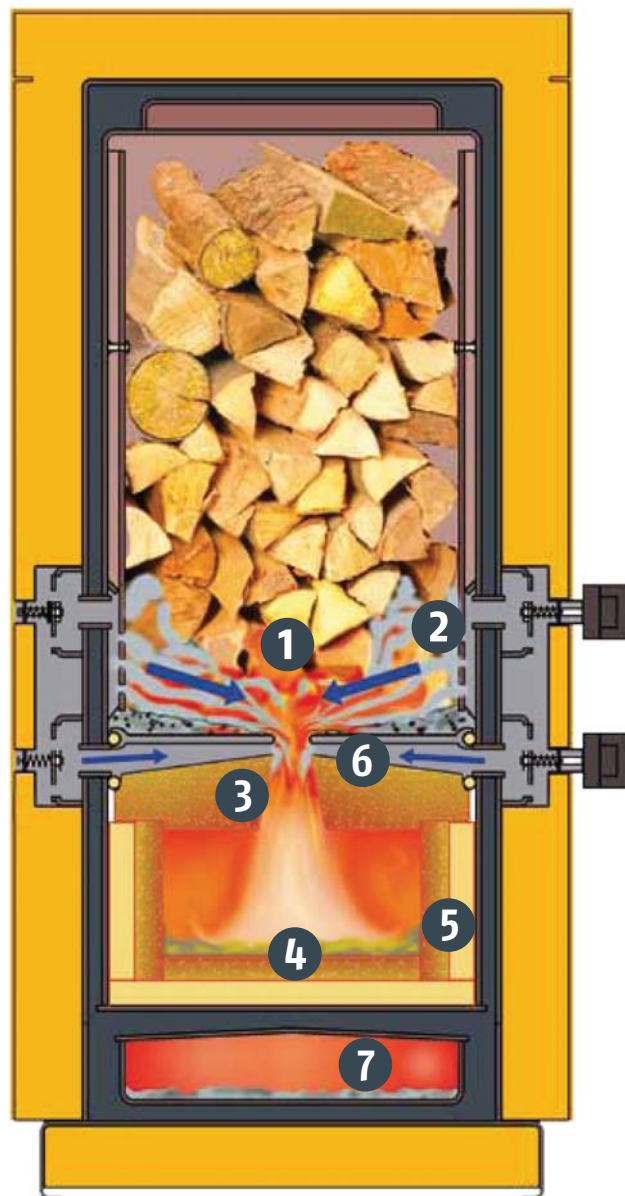
### Large supply of wood in the fuel chamber

A small gasification fire burns at the base of the wood stack in the fuel chamber (1). The air supply must be kept to a minimum to prevent uncontrolled gasification and burning of the wood stack in the fuel chamber. The electronic controls of the ETA SH regulate the output of the gasification fire via the primary airflow (2). This enables slow and controlled burning in a boiler with a large wood content as well as a long combustion period. The wood gas in the fuel chamber is drawn downwards into a hot combustion chamber.

### No electrical ignition

After closing the charging door, the wood fuel is ignited by the remaining embers from the last fire, without the need for paper or matches. This is both simpler and more effective than an electrical ignition system that requires fine kindling as pilot fuel.

Igniting the ETA SH also remains an uncomplicated process after extended periods without combustion. Just a few sheets of newspaper are required to light the fire through the ignition door. The induced draught fan ensures rapid



ignition and you can close the door and leave the boiler after just a few minutes, during which time you can prepare the wood for the next filling.

### Mixing nozzle and complete turbulence

A mixing nozzle (3) is located between the fuel and combustion chambers in the ETA SH. This is where preheated combustion air (secondary air) (6) is mixed with the wood gas. The flame exiting the mixing nozzle hits the hot bottom of the combustion chamber at a high velocity and experiences further turbulence (4), ensuring that every bit of combustible gas finds sufficient oxygen for complete burnout.



### Complete burnout in patented glow zone chamber

To achieve combustion at high temperatures, the ETA patented glow zone chamber is made from refractory ceramic material and is also thermally insulated (5). In this glow zone, the flame has enough time at temperatures between 900°C and 1100°C to break down and burn the very last of the resistant carbon rings (wood tar).

### Dust or minerals

The emission levels of the ETA SH are already far below the stringent dust limit values that will come into force in Germany on 1 January 2015. The fine dust produced by our wood fires consists primarily of non-toxic minerals such as calcium carbonate and other calcium and magnesium compounds.

### Wood, wood and more wood

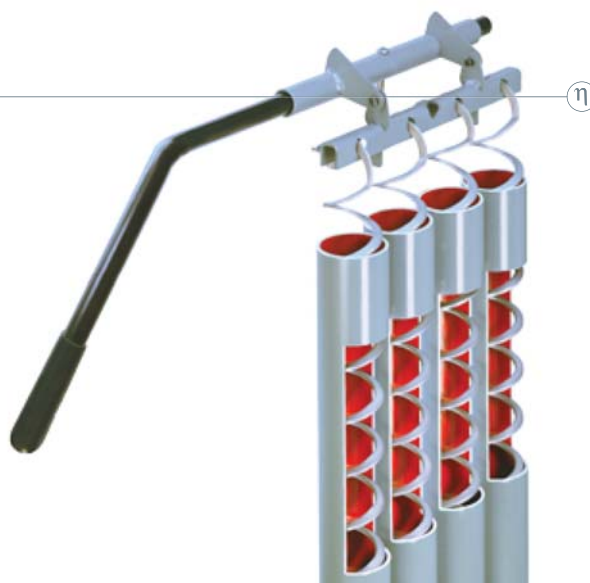
Theoretically, split beech logs that have been stored for one to two years are the ideal fuel. However, our forests contain many other trees such as spruces, poplars etc., each producing thick logs and thin branches. The ETA SH features a combustion control system with lambda probe that can handle all types of wood. You can fill your boiler with mixed wood or even wood briquettes. It is not up to you adapt the fuel to the boiler – the ETA SH automatically adapts to the wood being burned.

### Optimum fuel utilisation with lambda control

Through the use of lambda-controller secondary air (6), highly efficient combustion takes place within the clean range.

A lack of air means there is not enough oxygen for complete combustion. On the other hand, too much air also results in incomplete combustion as it cools the fire. Below 700°C, not all of the wood gas is burned. Excessive air also draws too much unused heat out of the boiler.

The lambda probe in the ETA SH ensures optimum combustion and maximum fuel efficiency, not only with selected wood in test conditions, but also in everyday use.



### Turbulent heat exchanger with simple cleaning

Only when the combustion process is fully completed does the hot gas flow into the cold section of the boiler, where it transfers its heat to the boiler water. In the ETA SH, this process starts slowly via a long ash sedimentation channel (7), before becoming more turbulent through heat exchanger tubes equipped with turbulators. The more turbulent the flow, the more the gas comes into contact with the tube walls, thus ensuring maximum transfer of heat to the boiler water. This ensures low exhaust gas temperatures and high efficiency.

Two or three pulls on the cleaning lever following each new fill of wood move the turbulators up and down in the heat exchanger tubes. The resulting flue ash drops into the ash collecting duct, leaving the heat exchanger clean.

### Induced draught keeps flue gas in boiler

Thanks to the induced draught concept, the entire interior of the boiler is under negative air pressure. As a result, no flue gases can escape from the boiler, regardless of the phase of operation.

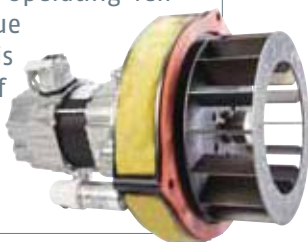


# ETA technology

## Perfection down to the last detail

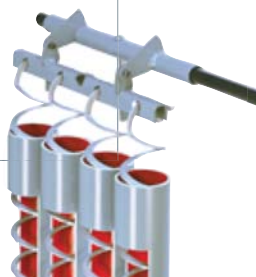
### A Reliable underpressure with induced draught fan

A quiet, speed-controlled draught fan (just 76 Watt) with feedback function ensures constant underpressure and high operating reliability independently of the flue draught. No draught limiter is required up to flue draughts of 30 Pa. The induced draught also prevents the escape of carbonisation gas when adding fuel.



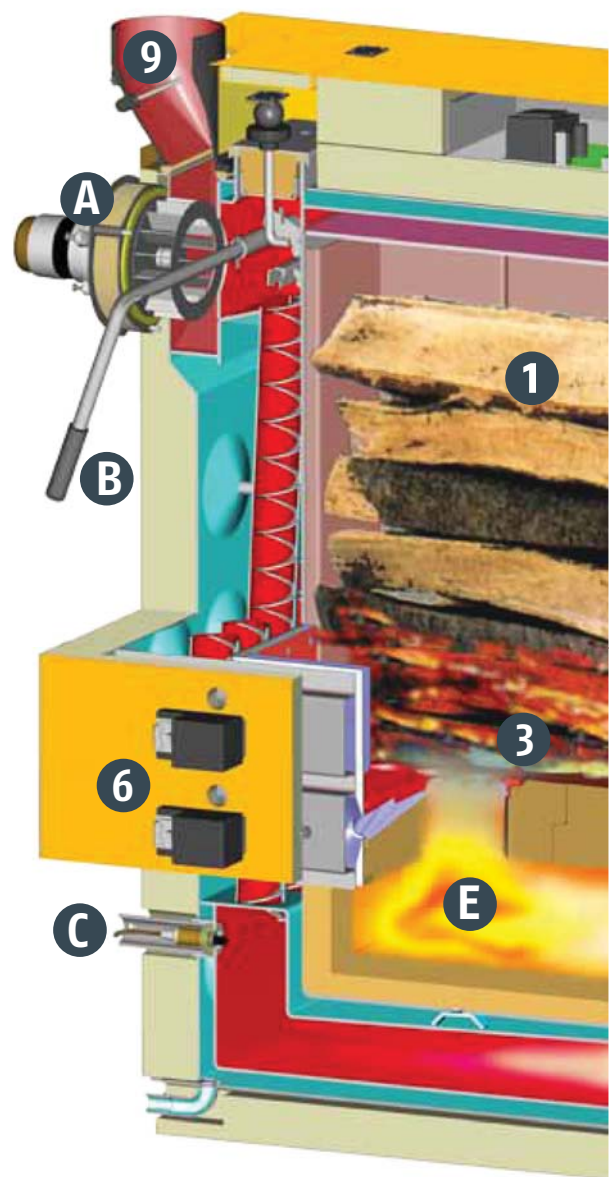
### B Heat exchanger cleaning

The heat exchanger tubes can be kept clean with a few daily pulls on the cleaning lever. A clean heat exchanger will improve the efficiency of the boiler.



### C Lambda probe

The lambda probe allows the control system to regulate the use of different fuels (wood type and size) and optimise primary and secondary air on an output basis. This ensures clean combustion with a high level of efficiency.



#### 1 Large fuel chamber

150 litres in SH 20/30 and 223 litres in SH 40/50/60, for half-metre logs with depth of 56 cm

#### 2 Carbonisation gas extraction

Prevents escape of smoke from boiler when adding fuel

#### 3 Ignition without matches

Ember retention (can be deactivated for ash removal)

#### 4 Ignition door

Simple ignition via the central door if no embers remain in the boiler.

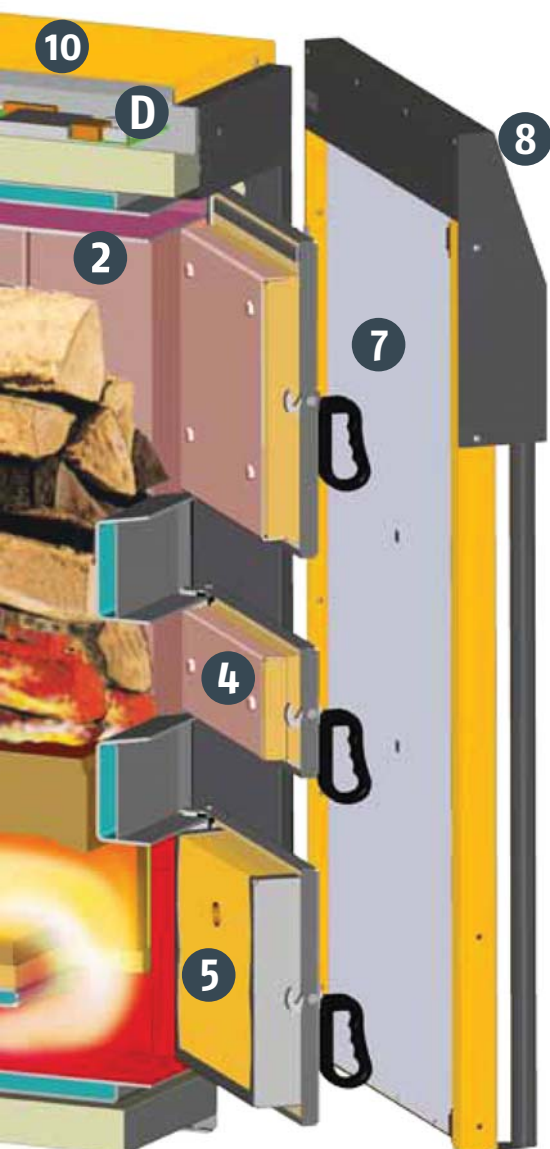
#### 5 Easy ash removal

Ash removal just once a week via the front-mounted combustion chamber door; no side-mounted doors

#### 6 Primary and secondary air valve actuator

With monitored position feedback





### D Complete control system

For boiler, buffer, time programme for two heating pumps and boiler. Continuation of operation with automatic boiler or pellet burner. Optional accessories include weather- and room-specific heating circuit control, solar heating system and remote control.



### E Patented glow zone combustion chamber

To maintain temperatures of 900 and 1100°C in order to ensure full burnout, the patented ETA glow zone combustion chamber is thermally insulated. The multi-part construction with expansion joints allows the combustion chamber to withstand these heats for extended periods.



### When space is at a premium

Either side of the boiler can be positioned directly next to the wall. There are no cleaning doors on the rear or sides of the machine. The boiler is delivered with the hinges on the right, but these can be very easily moved to the left side. The cleaning levers and actuators can also be mounted on the left or right.

#### 7 Insulated door

With all-round thermal insulation and an additional insulated door, radiation losses amount to just 0.6%. The combustion air is sucked in behind the insulated door such that the heat loss from the boiler doors is used to pre-heat the air.

#### 8 Control panel

Four-line text display panel installed in front door to protect it during fuel replenishment

#### 9 Exhaust gas temperature sensor

Infinite adjustment of minimum and maximum exhaust temperature to enable adaptation to existing flue

#### 10 Delivery condition

The boiler is supplied separately from the panelling to the housing. Only when installation is completed and the boiler room is swept clean should the plug-in electronics and panels be unpacked and fitted to the boiler

# ETA

## Everything under control

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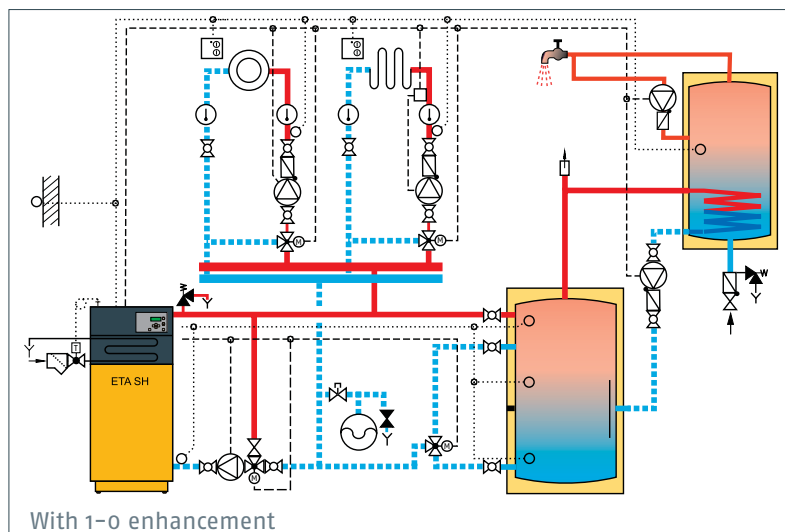
The standard boiler includes all functions for lambda-controlled combustion, return temperature raising, buffer storage tanks, hot water and heating pump inputs. Weather-based flow temperature regulation for heating circuits, which are often already in place, is available as an option.

All components of an ETA-controlled heating system, such as the boiler, buffer, heating circuits, oil/gas boiler etc., can be accessed and adjusted via the boiler's text display panel and are always perfectly coordinated. In the case of a fault, the control system provides instructions to enable rapid elimination of the cause.

As a complete solution, it is also possible to integrate a solar heating system with optimised priority control into the boiler control system.

### Standard features of control system

- 11 Output regulated with a variable speed draught fan based on boiler, buffer and flue gas temperatures
- 11 Combustion is regulated using lambda controller fuel adaption
- 11 Continuous monitoring of operating state, incl. lambda and exhaust temperature, boiler and tank temperatures, return riser, reporting of induced draught speed and position of air valve actuators; plain text notification of faults and troubleshooting instructions
- 11 Emergency operation with



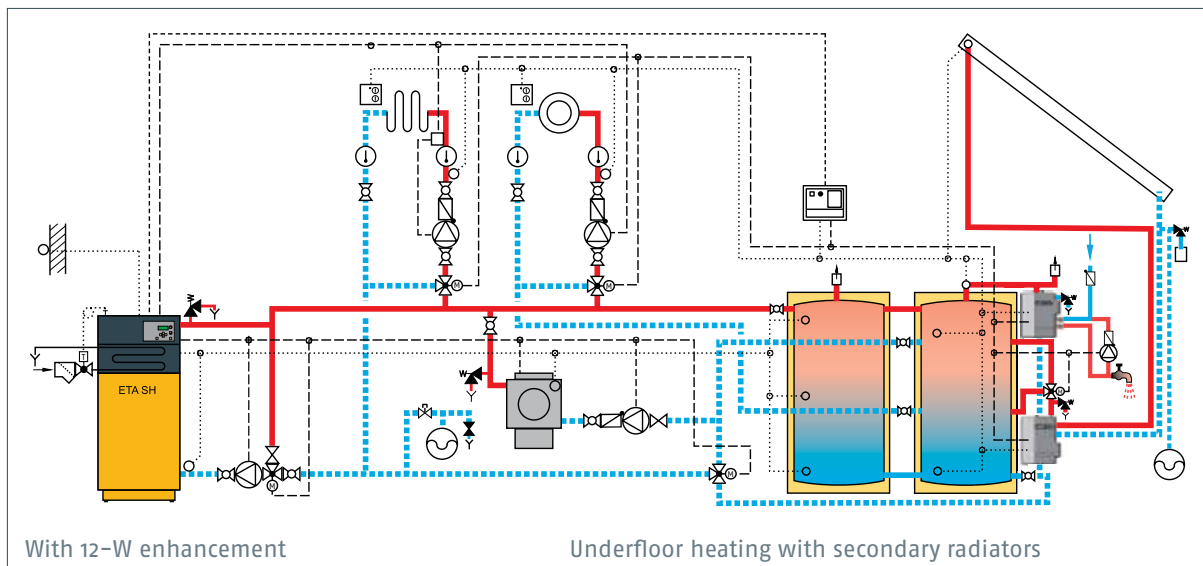
manual/auto switch for pumps and induced draught

- 11 Buffer management with start relief and speed-controlled loading pump
- 11 Return riser via mixing valve with residual heat usage
- 11 Two heating circuit pump outputs with weekly programme, three daily time slots
- 11 Water heating with tank or combination buffer
- 11 Hot water circulation pump output with weekly programme
- 11 Automatic continuation of operation with oil/gas boiler or pellet burner

11 Weather-based flow temperature regulation for two or four mixing valve circuits; expandable with room sensors and remote control

- 11 Second hot water tank
- 11 Fresh water module
- 11 Freely configurable thermostat or differential temperature thermostat
- 11 Solar heating system with internal exchanger, external stratified charging module or two tanks
- 11 Pump for transmission line/micro-grid
- 11 GSM modem for mobile phone control and SMS system messages

### Optional extras





## ETA TWIN Automatic pellet replenishment

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What if you have wood, but not enough to heat your home for the entire winter? Or say you want to use split logs, but like to go away for the weekend and would love to come back to nice warm house? The ideal solution in this case is the ETA SH-P split log boiler combined with the ETA TWIN pellet burner.

If you only want to use split logs for now and plan to introduce pellets at a later stage, your best choice of log wood boiler is the ETA SH-P model with pellet flanges. These allow the later connection of an ETA TWIN pellet burner.

### Automatic switching

The pellet combustion chamber is separated from the split log furnace, thus enabling flexible switching between split logs and pellets. Once the split logs have been burned and the buffer is empty, a red signal on the room sensor notifies you to add more fuel. If you do not replenish within the period set in the control system, the boiler automatically heats using pellets. When you open the boiler door to add more split logs, pellet operation is automatically deactivated.

### Self-cleaning rotating grate

ETA's patented, in-house developed rotating grate is able to clean itself. After burning 25 to 35 kg of pellets, it is rotated through a cleaning comb in order to remove ash and slag from the air gaps. A clean grate ensures consistent air flow through fuel. Furthermore, the fire-bed is stoked by gentle grate movements during combustion. This results in a high level of pellet burnout, which in turn minimises ash production while ensuring optimum fuel efficiency.



### Options for ideal pellet storage

Thanks to the suction-based transport of the pellets to the boiler, the pellet store can be situated up to 20 m away and both above or below the boiler room. To adapt an existing room, we recommend the use of our modular discharge screw system. However, it is also possible to employ suction probes, a bag silo or an underground tank outside the house. The pellet store and the boiler are linked via two flexible DN 50 hoses, one for sucking in the pellets and the other for returning dusty air to the pellet store.

For a 12 kW heating load, a 2 x 2.5 m room with a 2.4 m high ceiling can accommodate the entire annual pellet requirement including a 20% reserve for especially cold winters. Pellets generally require no larger "tank room" than is needed for oil heating.



## ETA SH-P and TWIN

### Heating with split logs and pellets.

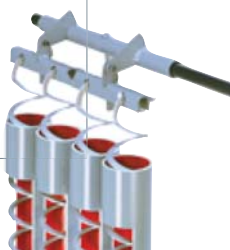
#### A Pellet hopper

60 kg pellet storage on boiler reduces the duration of pellet feeding between the store and the boiler to one daily ten minute feed. The time of pellet transport can be set in the control system.



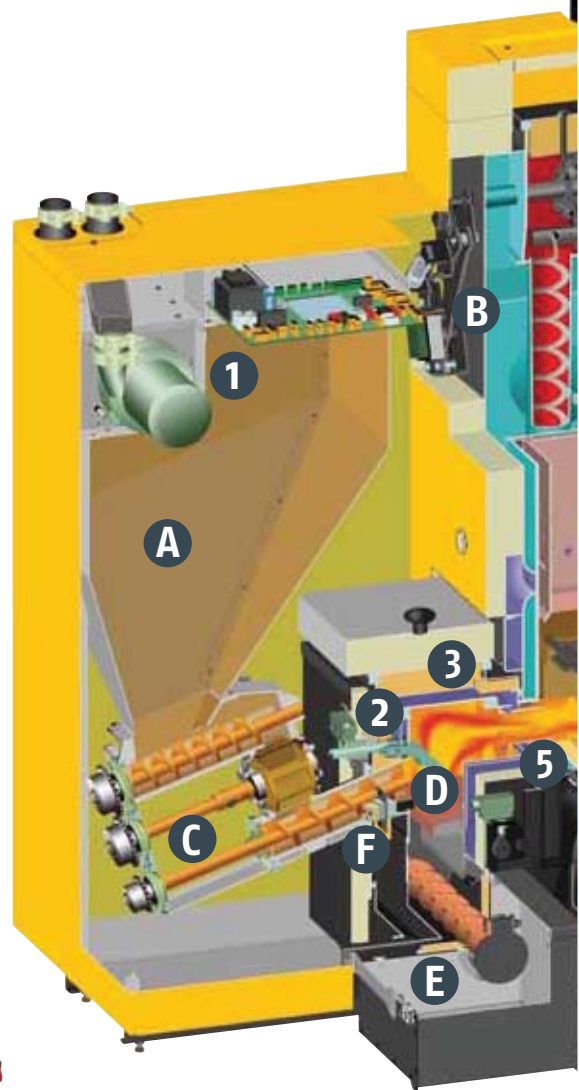
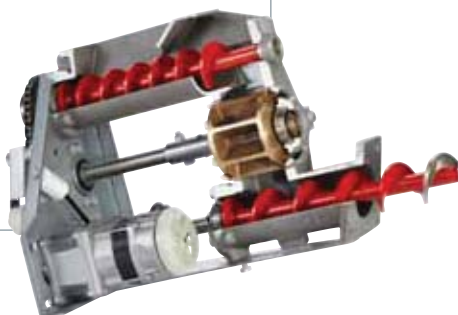
#### B Heat exchanger cleaning

fully automatic with turbulators. A clean heat exchanger will improve the efficiency of the boiler.



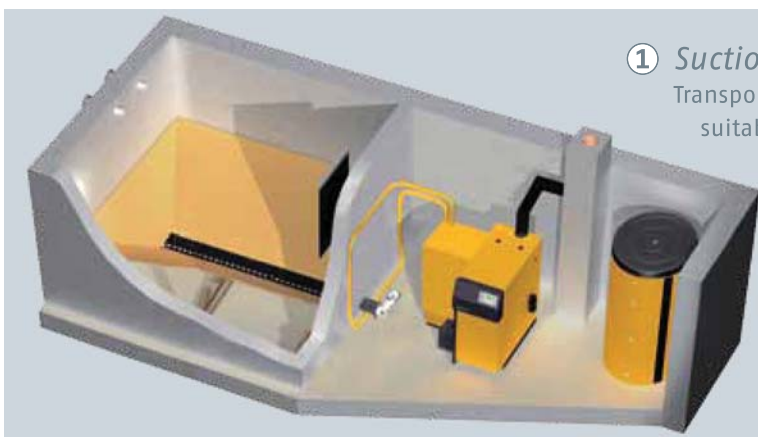
#### C Rotary valve for safety

The rotary valve ensures absolute burn-back protection. A metering screw feeds the pellets from the bin into the rotary valve. This removes the need for cutting pellets while preventing wear to the sealing edges. The burn-back protection is thus maintained throughout the entire service life of the boiler.

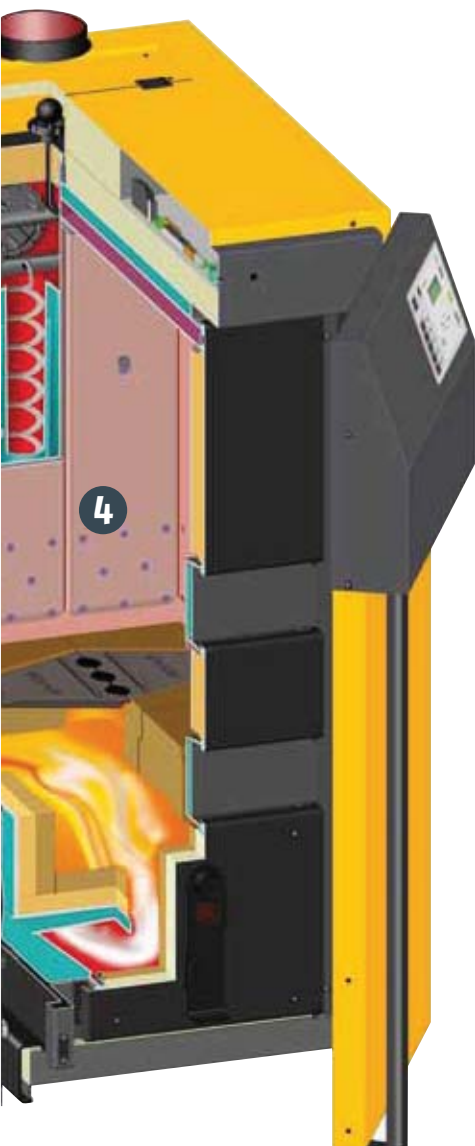


#### ① Suction turbine for pellet transport

Transports pellets from the store to the pellet bin; suitable for distances up to 20 m and height differences of up to two floors





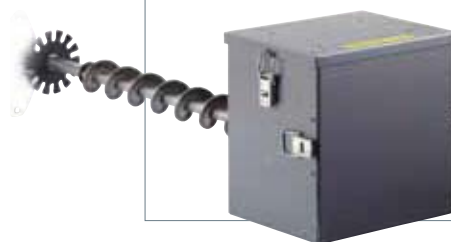


#### D Self-cleaning, patented rotating grate



The system performs a cleaning process after 25 to 35 kg of pellets. The grate is rotated through a comb in order to remove ash and slag from the air gaps. During combustion, the firebed is stoked by gentle grate movements, thus ensuring ideal burnout with minimum ash production.

#### E Automatic ash removal



The ash from the pellet burner is compressed in a removable ash box (18 litres), which only has to be emptied two to three times per heating season.

#### F Continuation of operation with automatic ignition



When not heating with split logs, the pellet burner starts automatically when heat is required. Ignition occurs automatically. The pellet operation time is programmable: you can select a time of day, specific week days or a minimum period (up to 48 hours) after the lost split log fire.

#### 2 Mechanical overflow protection

Prevents overfilling of the combustion chamber

#### 3 Separate pellet combustion chamber

Optimises the fuel efficiency of the pellet and enables automatic switching from log wood to pellets without manual conversion or switching.

This also works if you are not at home, since the pellet burner starts automatically before the temperature falls too low.

#### 4 Large log fuel chamber

Accommodates half-metre logs, making this a fully-fledged log wood boiler with a long combustion period; only one replenishment required in normal circumstances, or two on very cold days

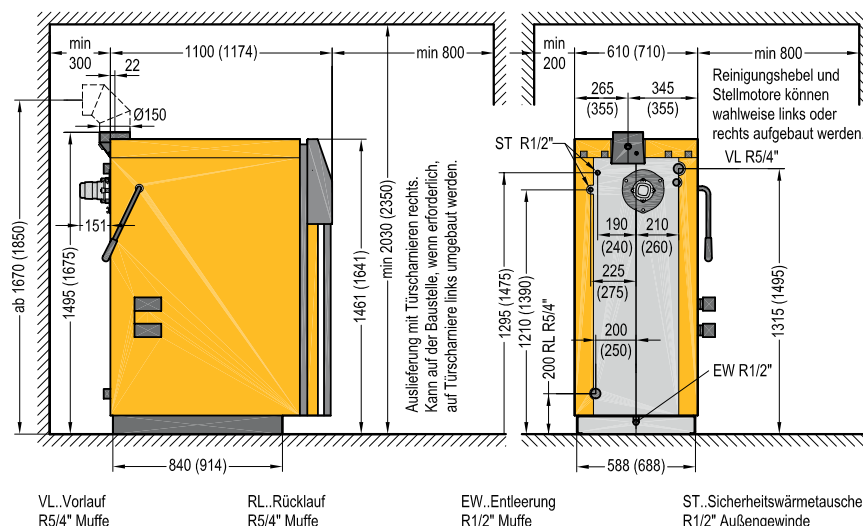
#### 5

#### Gas duct to log wood boiler

The flue gases are transferred from the pellet combustion chamber into the hot post-combustion chamber of the log wood boiler. Following completion of the burnout process, the energy is transferred to the hot water in the boiler's heat exchanger

# Wood gasification boiler ETA SH 20 to 60 kW SH-P with 20 and 30 kW

Numbers in brackets for 40, 50 and 60 kW



## Technical data for ETA SH

		20	30	40	50	60
Rated capacity	kW	10–20	15–30	20–40	20–49.9	20–60
Beech log efficiency, partial/full load*	%	95.4 / 92.9	92.7 / 89.3	93.6 / 91.4	93.6 / 91.4	93.6 / 91.4
Fuel chamber		560 mm deep for 1/2-m logs 340 x 365 mm door opening				
Fuel chamber volume	Litres	150		223		
Beech log combustion period, partial/full load	h	19.2 / 8.6	12.1 / 6.3	14.1 / 7.1	14.1 / 5.6	14.1 / 4.7
Dimensions without housing, W x D x H	mm	588 x 940 x 1495		688 x 1015 x 1675		
Weight	kg	580	583	791	793	795
Water content	Litres	110		170		
Waterside resistance ( $\Delta T=20^\circ$ )	Pa / mWS	190 / 0.019	370 / 0.037	220 / 0.022	340 / 0.034	480 / 0.048
Flue gas mass flow rate, partial/full load	g/s	7.0 / 12.8	10.4 / 18.6	12.2 / 24.0	12.2 / 30.2	12.2 / 35.4
CO <sub>2</sub> content in dry flue gas, partial/full load	%	12.0 / 14.0	12.0 / 14.0	14.0 / 14.5	14.0 / 14.5	14.0 / 15.0
Exhaust temperature, partial/full load*	°C	100 / 130	100 / 140	90 / 145	90 / 150	90 / 160
Flue draught		2 Pa for partial load / 5 Pa for full load required No draught limiter required up to 30 Pa				
Carbon monoxide (CO) emissions	Partial/full load* mg/MJ mg/m <sup>3</sup> 13%O <sub>2</sub>	153 / 145 241 / 229	43 / 94 65 / 143	120 / 30 182 / 46		
Dust emissions	Partial/full load* mg/MJ mg/m <sup>3</sup> 13%O <sub>2</sub>	10 15	7 10	10 15		
Unburned hydrocarbon emissions (CxHy)*	mg/MJ mg/m <sup>3</sup> 13%O <sub>2</sub>	2 / 3 3 / 4	19 / 7 25 / 10	2 / <1 3 / <1		
Electrical power consumption, partial/full load*	W	69	86	87		
Recommended buffer storage tank volume	Litres	min. 1100, opt. 2000		min. 2200, opt. 3000		
Required buffer tank volume in Germany (1st BImSchV)	Litres	1100	1650	2200	2750	3300
Max. permissible operating pressure	3 bar	Boiler rating Tested fuels Electrical connection 3 acc. to EN 303-5 Spruce and beech up to W20 1 x 230 V / 50 Hz / 13 A				
Temperature adjustment range	70–85°C					
Max. permissible operating temperature	95°C					
Min. return temperature	60°C					

\* Data from test reports of BLT Wieselburg, log numbers 041/10, 028/99. The test reports of BLT Wieselburg can be found on the Internet at: [blt.josephinum.at](http://blt.josephinum.at) (Test reports > Biomass boiler tests > Log wood boiler)



Conforms to  
EU standards



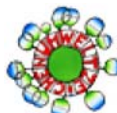
BLT Wieselburg  
Austria



TÜV South  
Germany



Quality seal of  
Holzenergie Schweiz



Austrian  
ecolabel



Listed on the  
Energy Technology List

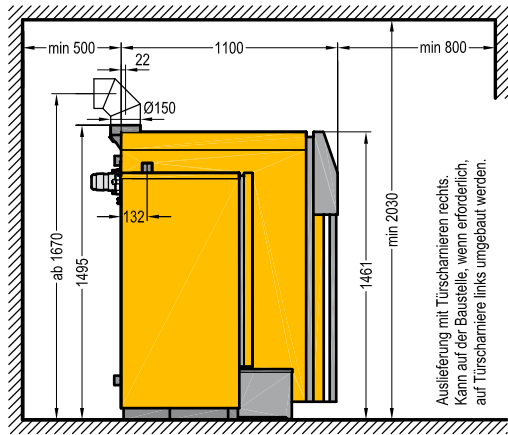


The Certification Mark for Onsite  
Sustainable Energy Technologies

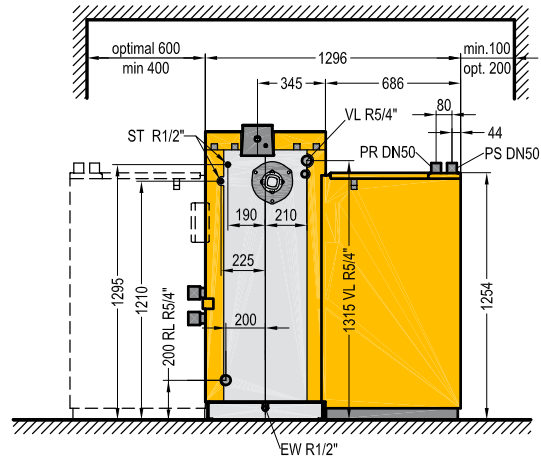


## Wood gasification boiler SH-P 20 and 30 kW and pellet burner ETA TWIN 20 and 26 kW

The boiler can be supplied with left- or right-mounted pellet feed.



VL...Vorlauf R5/4" Muffe  
RL...Rücklauf R5/4" Muffe  
EW...Entleerung R1/2" Muffe  
ST...Sicherheitswärmetauscher R1/2" Außengewinde



PS...Pelletssauganschluss DN50 Schlauchanschluss  
PR...Pelletsrückluft DN50 Schlauchanschluss

### Technical data for ETA SH-P and TWIN

		20/20		30/26
Rated capacity, wood gasification boiler	kW	10.0–20.0		15.0–30.0
Rated capacity, pellet burner	kW	6.0–20.0		7.5–26.0
Efficiency of wood gasification boiler (beech), partial/full load*	%	95.4 / 92.9		92.7 / 89.3
Efficiency of pellet burner, partial/full load*	%	87.8 / 92.0		87.7 / 91.5
Fuel chamber, log wood		560 mm deep for 1/2 m logs		340 x 365 mm door opening
Fuel chamber volume, log wood	Litres	150		
Beech log combustion period, partial/full load	h	19.2 / 8.6		12.1 / 6.3
Dimensions, W x D x H	mm	686 x 615 x 1254		
Weight with/without pellet burner	kg	728 / 580		728 / 583
Water content	Litres	110		
Waterside resistance ( $\Delta T=20^\circ$ )	Pa / mWS	190 / 0.019		370 / 0.037
Pellet bin on boiler (net)		60 kg (295 kWh)		
Maximum distance of boiler pellet store	m	20		
Ash box volume	Litres	11		
Flue gas mass flow rate, pellet partial/wood gasification full load	g/s	5.8 / 12.8		7.2 / 18.6
CO <sub>2</sub> content in dry flue gas, partial/full load	%	9.0 / 14.0		9.0 / 14.0
Exhaust temperature, pellet partial/wood gasification full load*	°C	90 / 140		95 / 160
Flue draught		2 Pa for partial load / 5 Pa for full load required No draught limiter required up to 30 Pa		
Carbon monoxide (CO) emissions	Wood gasification boiler, partial/full load* Pellet burner, partial/full load*	At 13% O <sub>2</sub>	153 / 145 mg/MJ 241 / 229 mg/m <sup>3</sup> 11 / 3 mg/MJ 17 / 4 mg/m <sup>3</sup>	43 / 94 mg/MJ 65 / 143 mg/m <sup>3</sup> 8 / 7 mg/MJ 13 / 10 mg/m <sup>3</sup>
Dust emissions	Wood gasification boiler, full load* Pellet burner, full load*	At 13% O <sub>2</sub>	6 / 9 mg/MJ 10 / 15 mg/m <sup>3</sup> 4 / 7 mg/MJ 6 / 11 mg/m <sup>3</sup>	7 mg/MJ 10 mg/m <sup>3</sup> 3 / 7 mg/MJ 5 / 7 mg/m <sup>3</sup>
Unburned hydrocarbons (CxHy)	Wood gasification boiler, partial/full load* Pellet burner, partial/full load*	At 13% O <sub>2</sub>	2 / 3 mg/MJ 3 / 4 mg/m <sup>3</sup> < 1 / < 1 mg/MJ < 1 / < 1 mg/m <sup>3</sup>	19 / 7 mg/MJ 25 / 10 mg/m <sup>3</sup> < 1 / < 1 mg/MJ < 1 / < 1 mg/m <sup>3</sup>
Electrical power consumption, pellets, full load*	W	46 / 61		63 / 116
Recommended accumulator tank volume	Litres	min. 1100, optim. 2000		
Required accumulator tank volume in Germany (1st BImSchV)	Litres	1100		1650
Max. permissible operating pressure	3 bar	Boiler rating		3 acc. to EN 303-5
Temperature adjustment range	70–85°C	Tested fuels		Spruce, beech logs up to W20, Wood briquettes, pellets ÖNORM M 7135, DIN 51731, DIN plus EN 14961-2, ENplus A1
Max. permissible operating temperature	95°C	Electrical connection		1 x 230 V / 50 Hz / 13 A
Min. return temperature	60°C			

\* Data from test reports of BLT Wieselburg, log numbers 039/10; 040/10, 041/10 und 028/99. The test reports of BLT Wieselburg can be found on the Internet at: [blt.josephinum.at](http://blt.josephinum.at) (Test reports > Biomass boiler tests > Log wood boiler)



BLT Wieselburg Austria



TÜV South Germany



Institute for Fire Protection



Quality seal of Holzenergie Schweiz



Conforms to CE standards



ETA PU PelletsUnit 7 to 15 kW  
(7, 11 and 15 kW)



ETA PC PelletsCompact 20 to 32 kW  
(20, 25 and 32 kW)



ETA PE-K pellet boiler 35 to 90 kW  
(35, 50, 70 and 90 kW)



ETA SH wood gasification boiler 20 to 60 kW  
(20, 30, 40, 50 and 60 kW)



ETA SH-P wood gasification boiler  
20 and 30 kW  
with ETA TWIN bellet burner 20 and 26 kW



ETA HACK wood chip boiler 20 to 130 kW  
(20, 25, 35, 50, 70, 90 and 130 kW)



ETA HACK wood chip boiler 200 kW



ETA stratified buffer SP and SPS  
(825, 1.000, 1.100, 1.650 and 2.200 litres)



ETA stratified buffer SP and SPS  
with fresh water and stratified  
charging module

Your heating specialist will be happy to advise you:



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