



**Wood-Chip
and Pellet Boilers USV**
15–100 kW



Protecting the Climate with Biomass

A human-made cause for the already noticeable change in climate is the greenhouse effect – brought about by the combustion of enormous quantities of combustibles and fuels to obtain energy. In contrast to oil, coal and natural gas, however, the combustion of biomass, such as e.g. forest-wood chips, does not result in additional CO₂ being released – and this a worthwhile contribution to the fight against global warming. Furthermore, biomass does not cause any environmental catastrophes, such as e.g. in the case of fossil fuels – neither during the process of obtaining it, nor by transport or storage, nor by heating. As a climate alliance company, KWB is setting new standards in the alternative energy sector and is making a positive contribution towards the global climate with its products.



With Warmest Recommendations: Wood Chips

Wood chips are a domestic, environmental energy source which are not subject to crises but which also secure domestic jobs. And the best part is: for the production of wood chips, not one single tree more has to be cut down. Every year, more wood grows back than is used up – all kinds of natural secondary wood material are suitable for use as wood chips, such as e.g. wood damaged by storms, slabs, branches and even waste material from joiners and carpenters.

It is mainly local farmers who are involved with the production and sales of wood chips, cutting the wood into approx. 3 cm-large chips after a drying phase of several months. Careful processing and drying enable optimal storage and trouble-free operation of heating systems with negligible production of ash and low emissions.

Wood Chip Boilers from KWB

With a power output range of 15 – 100 kW, there is always a suitable KWB wood chip boiler available – from single-family houses to small residential estates. And what's more, individual conveying systems offer ideal solutions for every storage room situation. Together with the new KWB comfort microprocessor control which gives sensational easy-to-use operation, KWB boilers are an environmentally friendly alternative offering the same comfort as traditional fully automatic heating systems.

**We Provide Energy
for Life!**





THE KWB COMFORT MICROPROCESSOR CONTROL

A modular expandable system enables the control of up to 34 heating circuits. The **menu-driven 2-button control unit with scroll wheel** and innovative, clear **graphic display** is a worldwide novelty in the industry. It even allows laypersons to adjust and operate the boiler simply. And an added advantage: the control unit can be removed from the boiler and easily placed in the living area in a prepared base.

Your Advantage



THE KWB AUGER-FED GASIFIER

The **underfeed firing with fuel-recognition sensor** together with an ingenious air conduction provides optimal, pollutant-minimizing combustion. Ignition is fully automatic with hot-air fan.



THE KWB HEAT EXCHANGER WITH AUTOMATIC CLEANING

The standard daily cleaning of the heat exchanger works fully automatically and takes only 15 seconds. The built-in **special turbulators not only** clean the heat exchanger but also guarantee an optimum heat exchange. The result is a **steady high degree of efficiency** with the utmost cost savings for the customer.

KWB BACKFIRE PROTECTION

Our **3-step safety concept** consists of a fuel recognition sensor on the burn pot, an emergency fire extinguisher in the underfeed stoking channel and a fire shutter on the delivery end between the fuel extractor and the hopper, and provides effective protection against backfire. The fire shutter also works during emergencies, such as e.g. during a power failure – thus providing optimum safety.



e: Perfect Engineering

KWB ASH REMOVAL SYSTEM

Two ash worm conveyors transport the ash fully automatically from the firebox to the ash box. Here it is compressed and this makes **operation even easier to use** since in this way the ash container only has to be emptied every 2-6 weeks. An ash-level monitor prevents too much ash being fed into the container.



KWB HOPPER

The hopper with its elegant and stable design is only available from KWB. A photoelectric system in the container controls the level automatically and retractable plates prevent the formation of combustible bridges above the auger. The hopper **raises the service life** of the fuel extractor and **minimizes electricity costs** since the conveying system operates less often.



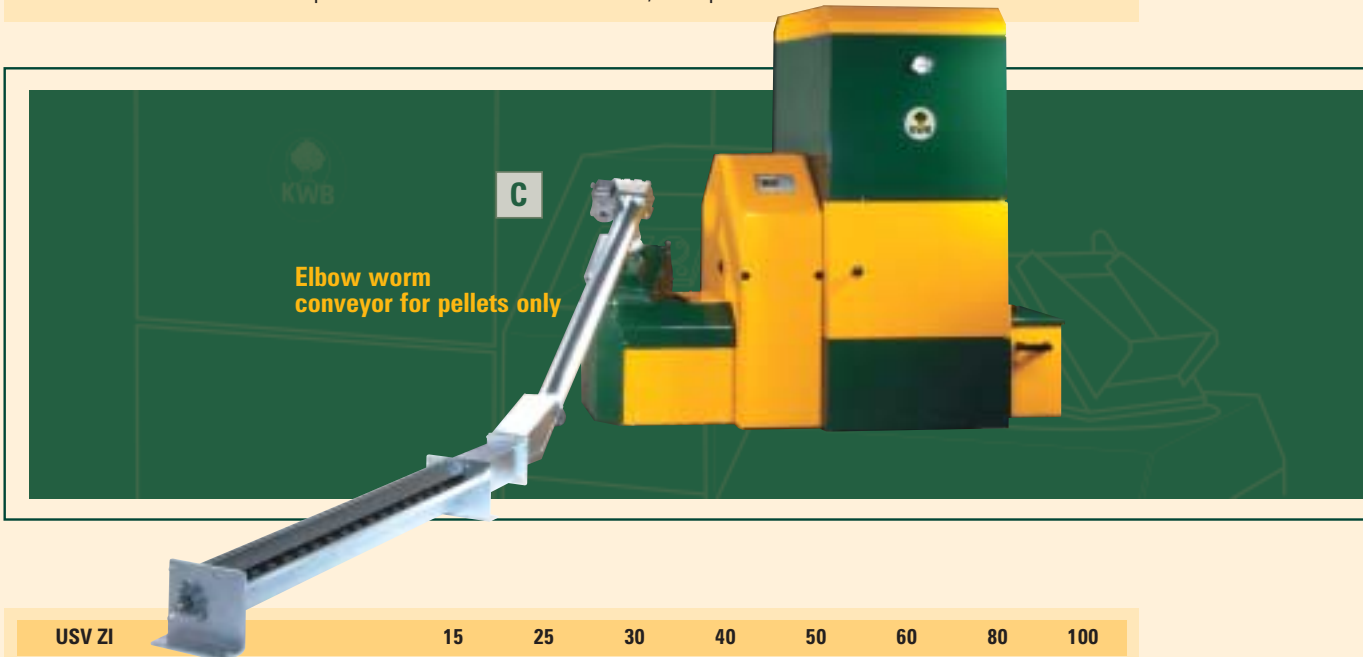
The nominal output of KWB wood chip boilers varies from 15–100 kW, and our range can be subdivided as follows:

Basic version USV D, hopper version USV ZI, storage container version USV V.

All these boiler types can be heated with wood chips and pellets trouble free.

Nominal output type	15	25	30	40	50	60	80	100
USV D	X	X	X	X	X	X	X	X
USV ZI	X	X	X	X	X	X	X	X
USV V	X	X	X	X				

USV D	15	25	30	40	50	60	80	100
Height of boiler (mm)	1520	1520	1812	1812	1812	1812	2028	2028
Width of boiler (mm)	1595	1595	2035	2035	2035	2035	2035	2035
Depth of boiler (mm)	740	740	855	855	855	855	855	855
Size of smoke pipe (mm)	180	180	200	200	200	200	200	200
Minimum cross section of chimney (mm)	180	180	200	200	200	200	220	250
Minimum chimney connection height (mm)	1505	1505	1790	1790	1790	1790	2200	2200
Forward / return size (inches)	5/4	5/4	2	2	2	2	2	2
Power connection	400 V, 3-phase with fed-through zero conductor							
Fuel	Wood chips G30 acc. to Austrian Standard M7133, wood pellets							



USV ZI	15	25	30	40	50	60	80	100
Height of boiler (mm)	1520	1520	1812	1812	1812	1812	2028	2028
Width of boiler (mm)	1760	1760	2200	2200	2200	2200	2200	2200
Depth of boiler (mm)	740	740	855	855	855	855	855	855
Size of smoke pipe (mm)	180	180	200	200	200	200	200	200
Minimum cross section of chimney (mm)	180	180	200	200	200	200	220	250
Minimum chimney connection height (mm)	1505	1505	1790	1790	1790	1790	2200	2200
Forward / return size (inches)	5/4	5/4	2	2	2	2	2	2
Power connection	400 V, 3-phase with fed-through zero conductor							
Fuel	Wood chips G30 acc. to Austrian Standard M7133, wood pellets							

USV V	15	25	30	40
Height of boiler (mm)	1520	1520	1812	1812
Width of boiler (mm)	2150	2150	2590	2590
Depth of boiler (mm)	1060	1060	1060	1060
Size of smoke pipe (mm)	180	180	200	200
Minimum cross section of chimney (mm)	180	180	200	200
Minimum chimney connection height (mm)	1505	1505	1790	1790
Forward / return size (inches)	5/4	5/4	2	2
Power connection	400 V, 3-phase with fed-through zero conductor			
Fuel	Wood chips G30 acc. to Austrian Standard M7133, wood pellets			



Wood chip boiler USV V with storage container

When it comes to biomass conveying systems KWB is the expert and has exactly the right solution for every storage room.

DIFFERENTIATION BETWEEN THREE CONVEYING SYSTEMS:

A **Fuel extractor with articulated blade rotary stirrer and worm conveyor for wood chips and pellets**

Optimum solution for large storage rooms from 4.5 meters in diameter upwards and a minimum dumping height of 3 meters, efficient storage-room emptying, low-noise and power saving operation due to optimized shape of channel and worm conveyor; worm gearing is maintenance free.

B **Fuel extractor with spring blade rotary stirrer and worm conveyor for wood chips and pellets**

Optimum solution for storage rooms from 4.5 meters in diameter upwards, efficient storage-room emptying, low-noise and power saving operation due to optimized shape of channel and worm conveyor; worm gearing is maintenance free

C **Elbow worm conveyor for pellets only**

The cost-saving solution for the **exclusive use of pellets** as fuel despite high boiler nominal output of up to 100 kW. A complete emptying of the storage room is guaranteed using an inclined floor. Operation is very quiet with high power saving, and the complete conveying system is maintenance free.

The Optimum Solution for Everyone



The New KWB Control System

The new **KWB comfort microprocessor control** makes operation of the heating system not only a pleasure for the expert but also child's play for the layperson. The newly developed 2-button technology with scroll wheel combined with the generous graphic display results in a phenomenal ease of operation for the customer in a way never experienced before with traditional heating systems.



Simply Comfortable

But the new control system from KWB offers even more: the **operator's control unit** can be easily removed from the boiler and **placed** in a prepared base **e.g. in the living room** like a remote control unit. Walking down to the cellar to adjust the heating is now a thing of the past – thanks to KWB.



KWB Comfort Consists Of:

CONTROL UNIT

The output of the boiler can be adjusted to your heating needs according to requirements, fully automatically and step-wise from ember-bed maintenance to full load operation. The most important parameters can be easily entered and read by means of the graphic display on the control unit. Operation is menu driven by means of a scroll wheel and two control keys.

KWB comfort is expandable in modules:

- Heating circuit expansion module for two heating circuits
- Digital remote control unit
- Analogue remote control unit

With the exception of the analogue remote control unit, all the individual control components communicate with each other by means of a RS 485 bus.

Maximum configuration:

- 34 heating circuits
- 17 domestic hot water cylinders
- 17 buffer tanks

**Successfully
Under Control!**



Control unit on the boiler



An elegant cover replaces the control unit when it has been placed in the living room.

An Ecological and Economic Success Story: KWB

The basic idea behind KWB emerged from the bold vision of a committed scientist, Dr August Raggam, of the Graz University of Technology, who had dedicated himself since 1973 to research in biomass combustion. His ambitious objective: finding practical applications for his research and helping mankind to switch over to renewable energy.

Tolerated with a smile at the beginning, he was nevertheless able to gain the enthusiastic support of others, such as e.g. Erwin Stubenschrott, who since the founding of the "Kraft und Wärme aus Biomasse GmbH" company in 1994 has directed the fortunes of KWB as executive manager.



Today, the international company has established itself both as an expert in the field and market leader in the area of biomass combustion.



Innovation with Tradition

The company's own Research & Development department works hand in hand with assembly in three production halls on the optimization of existing potential and on new solutions for the future. KWB thus offers high-tech products at the cutting edge of technology and is setting international standards for highest ease of operation, clean combustion and optimum heat generation. Furthermore, the wishes and suggestions of our customers are systematically collected and continually integrated into the development processes.

**With Ideas
into the Future**



Responsibility for Generations

At the end of the 21st century mankind's energy supply will be based on renewable energy sources, such as e.g. biomass. And we want to contribute to this to the best of our ability. We have thus formulated a mission statement, binding for us, through whose realisation our quality and environmental policies and their objectives can be secured.

The KWB Mission Statement

As part of society and nature, we are bringing about economic, social and ecological health.

This means for us:

- Raising our corporate value in order to be in a position of negotiation
- Cultivating contacts with employees, customers, suppliers, authorities and all those involved, on a partnership basis
- Through our thoughts and actions we make an essential contribution to mankind's changeover to renewable energy sources. Here, the combustion of biomass plays a foremost role
- We are securing the realisation of this mission statement through our quality and environmental policies and objectives.



Respect for Nature

Whoever uses KWB heating systems, actively contributes to the protection of the environment. But even more, we at KWB go one step further and make sure that only the highest environmental standards are adhered to in the manufacture and sales of our products.

- Efficient and economical utilization of all resources
- Preference given to renewable and recyclable raw materials
- Minimization of exhaust gas, ash and noise emissions in the operation of our heating systems
- Operation of our heating systems based exclusively on environmentally friendly fuels
- Selectivity of purchase: choice of suppliers and products according to our guidelines
- Adherence to all legal regulations and working out future standards.

**We Think
of Tomorrow**



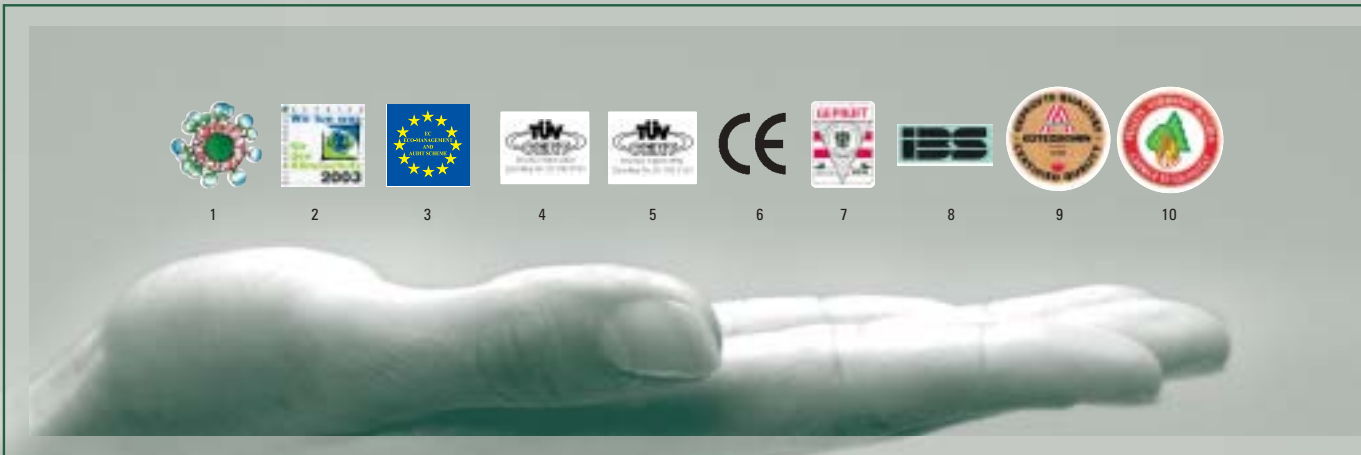
- Reduction of environmental pollution through our production plants
- Promotion of a sense of responsibility to the environment on the part of all our staff
- Promotion of biological diversity in the care and maintenance and shaping of the KWB site
- Pursuance of an open and concrete information policy for the public
- Orientation to the latest findings in environmental protection in our attitude and deeds.

Furthermore, we make sure that our products are manufactured exclusively under working conditions conforming to the European standard. Flexible working hours and independent thinking and acting are a matter of course for our staff.



Subsidies

KWB biomass heating systems are economical because their purchase pays for itself relatively quickly. Subsidies from the public sector are making the environmentally friendly alternative even more attractive and are awarded according to regional subsidy guidelines. The responsible authorities in your region will be happy to give you information of exact subsidy amounts.



Trusting in Quality



All KWB heating systems are Austrian products of quality and fulfil the most stringent European standards, inspections and guidelines. Internal and external quality assurance systems provide for the best processing and highest operational efficiency. Our constant objective is a higher-than-average industry manufacturing quality – so that you can rely on us 100%.

1 Austrian environmental prize • 2 Climate alliance company • 3 Environmental management • 4 Quality management acc. to ISO 9001 • 5 Quality management acc. to ISO 14001 • 6 Conformity to EU guidelines • 7 Emissions and efficiency degree inspection, Wieselburg • 8 Safety certificate from the Institute of Fire Protection Technology • 9 Austrian model company, Austrian seal of quality • 10 Member of the Austrian Pellet Association.



Priority for Service to the Customer!



A KWB Biomass Heating System Can Be Yours at Anytime

KWB heating systems are available everywhere in Central Europe. Sales and services are provided by over 21 sales representative partners as well as over 1000 heating engineers and heating system fitters. The best trained and motivated staff make sure that KWB's mission statement is lived out to the full and experienced by the customers.

The wide-area customer service network enables optimum customer care and thus customer satisfaction.

More information about our partners is available under www.kwb.at

UNDER GUARANTEE MORE SAFETY

Whoever relies on quality as KWB does, can be confident of providing the best guarantees:

- 3-year full guarantee on all biomass boilers on conclusion of a maintenance contract
- 8-year guarantee on boiler bodies on the installation of a working return-flow temperature maintenance device
- 15-year spare parts guarantee.

KWB Partners

Heating engineers



**We Provide Energy
for Life!**

www.kwb.at



KWB
Biomasseheizungen