Log Wood Boilers

From 20 to 60 kW

Comfortable Heating. With Wood!

hdg-bavaria.com

hdg-bavaria.com

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Prices and indications are the result of innovative developments by HDG. At the same time you are providing us the incentive to carry on driving our research and development operation.

HDG log wood boilers fulfil the requirements of the burning and safety technology regulations.

Furthermore, HDG products undergo voluntary quality testing by independent institutions.

For information about the current support programs, see www.decc.gov.uk

HDG product range

HDG wood chip, pellet and shaving heating boilers

HDG log wood boilers

HDG pellet heating boilers

We are happy to provide information to you.

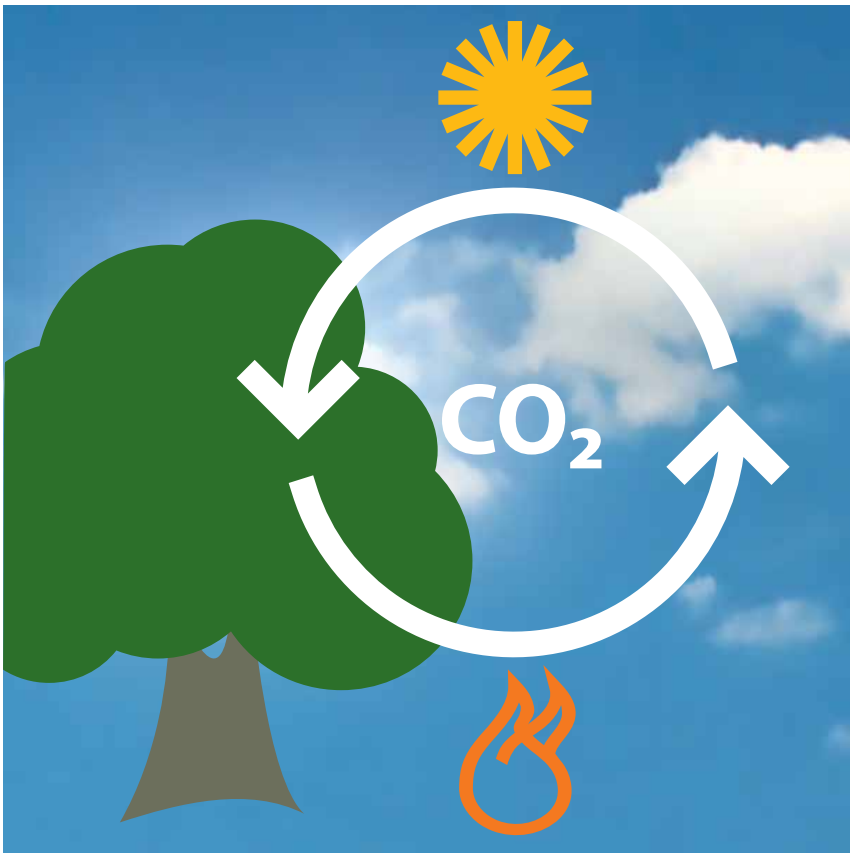
In order to protect the environment, we use mineral oil-free paint.
Version 120215
We reserve the right for technical modifications and errors
Art.-No. 99800000324

„We use wood for heating. This cares for the environment - and helps us to plan our energy costs reliably for the future“

Birgit and Josef Hausperger

Ecologically reasonable...

Heating with wood:
Reasonable for nature and man.
If you show respect for nature today, you care for the generations to come. Since the functioning of the natural cycles are a prerequisite for living on the Earth. Increasing storm and flood catastrophes suggest to us how expensive a lack of respect for nature could prove to be in the future.
Wood is stored energy from the sun; and by heating with wood we only release the amount of CO_2 that was absorbed by the tree from the atmosphere during its growth. Therefore, heating with wood is in harmony with nature! As opposed to this, when burning oil and gas we release the CO_2-reserves stored for millions of years into the atmosphere.



An even balance
When burning wood, the amount of CO_2 released – like for decay – is exactly the same as the amount absorbed earlier during growth.

HDG has everything for a modern log wood heating system:

This CO_2 contributes to the greenhouse effect induced by humans.

Therefore, heating with wood has four additional advantages:

- short fuel transport distances
- independence and logistical safety
- safe storage and secure transport
- occupation and added value in the rural area
- harvest and processing with low energy use

This is why it is good to use wood as a renewable fuel - for nature and for man.

...economically convincing.

With log wood, you have total control over energy costs.

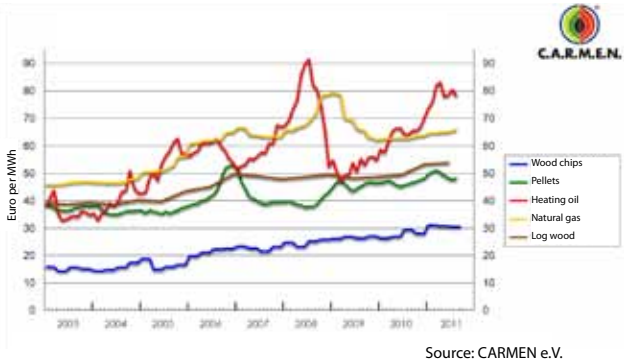
Fossil energy will be unavoidably more expensive in the future. The prices of fossil energy sources have already jumped to unprecedented levels so far.

This situation is not expected to relax in the medium term, since the demand for mineral oil and natural gas keeps rising due to the expanding use in countries like China and India.

Wood - especially log wood - is a fuel with stable price compared to fossil energy sources. With wood as a fuel you are able to manage your heating costs on an independent an regional cost basis.

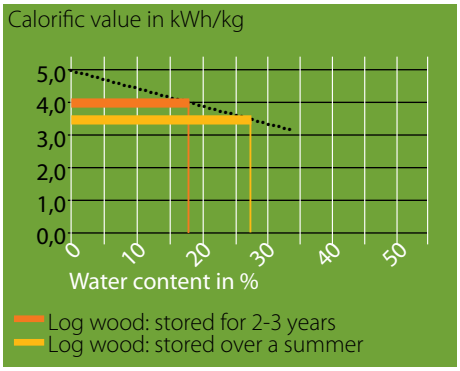
Use the potential of log wood in an optimal way.

The operator of a wood heating system can influence the efficiency of the system and emissions of pollutants significantly.
Log wood should always be split and properly seasoned - dry, roughly 25% dry scale moisture content before it is burned.
When wet wood is burned a large percentage of the energy held within the wood will be waisted, this energy will be used to turn the water within the log into steam, this process must be complete before any of the beneficial effects of combustion can be gained.
The burning of wet and or contaminated wood can also effect the longevity, efficiency, output & emissions of any log boiler.



Source: CARMEN e.V.

The rise of energy price between 2002 - 2011



Calorific value against water content

Useful detailed information for heating with log wood

Wet and dry scale

Wet scale (w) 15% 20% 25% 30%
Dry scale (u) 18% 25% 33% 43%

Conversion factors

1 litre of heating oil when burned generates a CO_2 emission of 2,.676 kg
1 litre of heating oil equals 2.5 kg wood
1 kg of wood (20 % dry scale) generates 4.0 kWh/kg

Abbreviations of room dimensions:

1 Srm = 1 m^3 poured, tipped or thrown logs
1 Rm = 1 m^3 neatly stacked logs
1 Fm = 1 solid cubic metre of wood (without spaces in between)

1000 litres of heating oil equal the energy of:

appr. 5 - 6 Rm leafy wood (hardwood),
appr. 7 - 8 Rm coniferous wood (soft wood),
appr. 10 - 15 Srm wood chips

HDG: High quality Log Wood Boilers

HDG has been constructing log wood boilers for around three decades, and has introduced trend-setting innovations to the market during this time.
This long-term experience is the basis for the proverbial quality and great success of HDG's products.

HDG boilers have:
- high efficiency,
- ideally low emission levels,
- uncompromised safety technology,
- solid workmanship and durability,
- low wood usage,
- high comfort due to long reloading cycles
- and simple operation.

Fuel
Applications
Technology
Use
Features

HDG Euro 30 kW, 40 kW, 50 kW	HDG Navora 20 kW, 25 kW, 30 kW, 40 kW, 50 kW	HDG Turbotec 50 kW, 60 kW
 > pages 6-9	 > pages 10-13	 > pages 14-17
■ Log wood up to half-metre logs ■ Additional possible fuels for auxiliary heating when used in connection with an optional HDG scale liner: waste wood, wood chips, shavings, shaving briquettes, waste wood (without organic halogen compounds or heavy metals, without wood protection material)	■ Log wood up to half-metre logs ■ Shaving briquettes	■ Log wood up to 1metre long logs ■ Rough chips
■ Private households ■ Agriculture and forestry ■ Commercial businesses ■ Wood processing businesses ■ Joineries ■ Sawmills	■ Private households ■ Agriculture and forestry ■ Commercial businesses	■ Agriculture and forestry ■ Commercial businesses
■ Fueling from the top ■ Appr. 220 litres of fuel chamber capacity with pneumatically supported fueling hatch ■ Horizontal firing combustion chamber ■ Intelligent combustion control HDG Lambda-Control 1 ■ Controlled burning process ■ High variety of fuels ■ Optimal combustion ■ Low emission levels	■ Handling and filling performed completely from the front ■ Appr. 150-litre fuel chamber capacity (20-30 kW) / appr. 195-litre fuel chamber capacity (40-50 kW) ■ Intelligent combustion control HDG Lambda-Control 1 ■ Automatic cleaning system ■ Integrated ash pan ■ Down-draught combustion technology	■ Fueling from the front with logs up to one metre long, ■ appr. 340-litre fuel chamber capacity ■ Intelligent combustion control HDG Lambda-Control 1 ■ Additional fuel chamber hatch optional (top) for wood waste and large wood chips
■ Simple and comfortable handling ■ Ideal for bulk material ■ Very long reloading cycles ■ Low emissions ■ The optional HDG scale liner serves for long-term heating of wood chips, shaving briquettes and carpenter waste.	■ Very user-friendly and comfortable ■ Very long reloading cycles ■ Low emissions	■ Comfortable handling ■ Low demands on wood preparation ■ Very long reloading cycles ■ Efficient combustion ■ High equipment efficiency ■ Low emissions
■ 92% efficiency ■ TÜV-certified ■ Robust burner nozzle and special combustion chamber ■ Fulfils the European Regulations for Emission Limit Values and Safety	■ 91% efficiency ■ TÜV-certified ■ Vertical cleaning function of the vertical heat exchanger surfaces ■ Fulfils the European Regulations for Emission Limit Values and Safety	■ 90% efficiency ■ TÜV-certificate and DIN registration (Reg. No. 3R155/05GA) ■ Electro-magnetic hatch safety interlock (child lock) ■ Fulfils the European Regulations for Emission Limit Values and Safety
■ Awarded with the Federal Innovations Prize	■ Awarded with the kwf Innovations Prize ■ Awarded with the Federal Innovations Prize	

HDG Euro

Highly versatile. Especially economic

The HDG Euro can burn a wide range of different wood heating material.
It is primarily used to heat larger domestic and commercial buildings.

The HDG Euro can be used by wood processing businesses and joineries or carpentries for burning their waste wood.

Fuels:
- Log wood up to half-metre logs
- Additional possible fuels for auxiliary heating in connection with optional HDG scale liner: waste wood, wood chips, shavings, shaving briquettes, waste wood (without organic halogen compounds or heavy metals, without wood protection material)

Capacity:
30 kW, 40 kW and 50 kW

- **Comfortable filling with log wood and bulk material – via the pneumatically supported fuel chamber hatch**
- **Long maintenance intervals due to the large ash space**
- **High efficiency and low emission levels due to the innovative control system HDG Lambda-Control 1**

Every HDG boiler has more than three decades of experience with wood heating systems.
And HDG Bavaria's ambition is to make something that is already fine even better.

Awarded with

Federal Innovations Prize

TÜV quality mark

Due the perfected combustion technology, the HDG Euro is a reliable and robust heating boiler.

The design of the HDG Euro grate allows the use of a wide range of different fuels.

The innovatively constructed and robustly manufactured
burner nozzle allows - together with the secondary combustion chamber - the optimum afterburning of flue gases. At the end of the burning cycle, the air flaps close and the fan switches off; therefore the chimney draft cannot cool the boiler down. Unburned charcoal is intentionally preserved after each burn, this makes re ignition a simple operation.

The innovative power and combustion control allows constant heating capacity and low emissions.

The actuators for primary and secondary air provide the necessary combustion air to the gasification and afterburner zones.
The primary air provides constant output, the secondary air low emissions during the secondary burning cycle.

The functional and well designed details enable as comfortable heating as possible using the HDG Euro.

Log wood and bulk material can be easily loaded into the spacious and conical fuel chamber.
The fuel chamber hatch is easy to open due to the integrated pneumatic support.

The large ash chamber in the boiler allows long maintenance intervals.
The cleaning doors on the longitudinal sides allow the use of a small installation space.

Optional accessories:

Scale lining

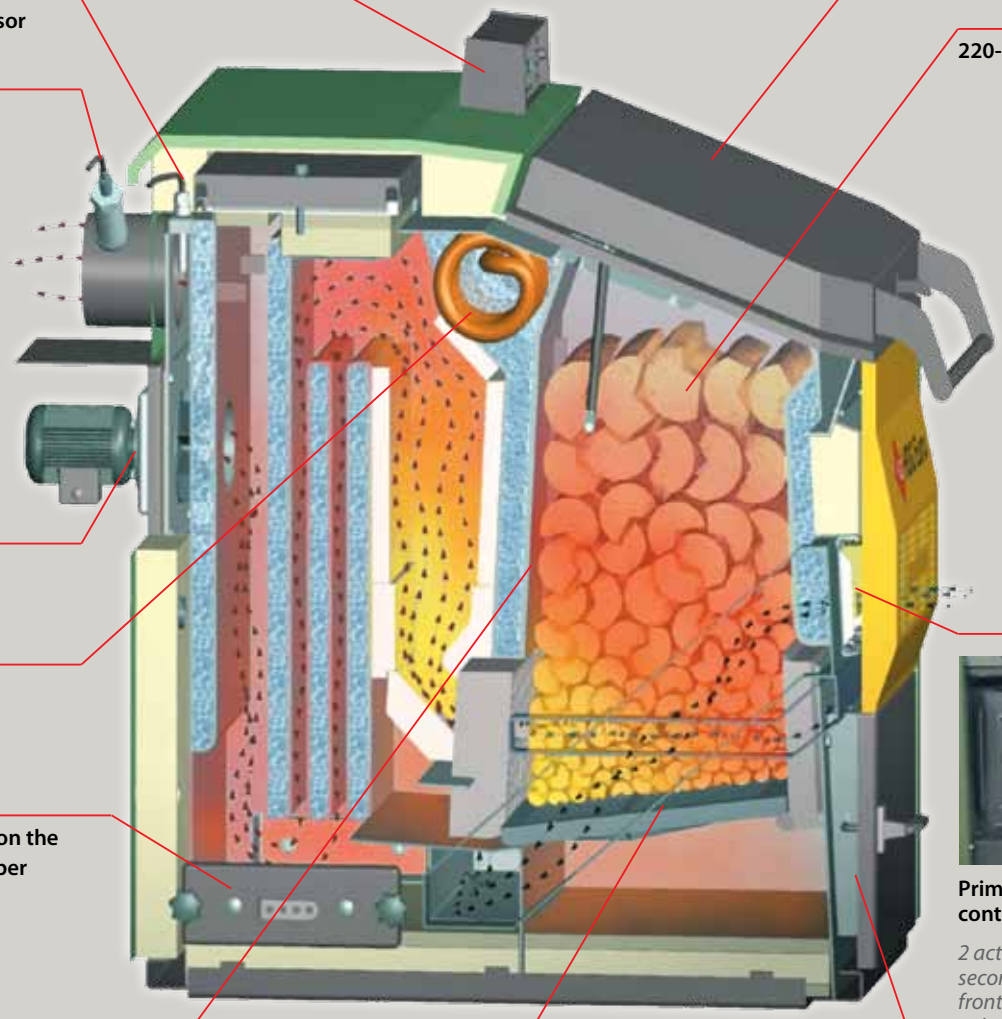
For the long-term combustion of wood chips, shaving briquettes and joinery waste, we offer an optional scale lining to increase the durability of the HDG Euro metal sheets are welded into the fuel chamber and they act as an additional protective lining.

Suggestion in case of a high demand on wood chips or shavings: optional scale lining for the HDG Euro.

Intelligent combustion control HDG Lambda-Control 1

Flue gas temperature sensor

Lambda sensor



Flue gas fan

Safety heat exchanger

Cleaning doors arranged on the sides for the fly ash chamber

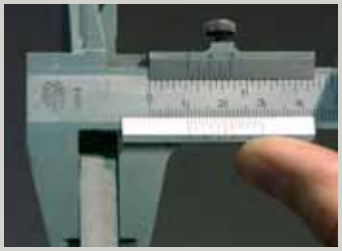
Fuel chamber hatch (pneumatically supported opening)

220-litre fuel chamber capacity

Primary and secondary air control unit

2 actuators for primary and secondary air – integrated in the front cover – provide the required volume of air to the combustion zone

Cleaning door for the ash chamber



The fuel chamber is made of 10 mm thick quality steel sheets: durable due to its robust construction.

The most robust cast grating with practical cleaning opening.

Control technology

The HDG Euro is equipped with an innovative HDG control system.

HDG Lambda-Control 1(LC1)
Combustion control with Lambda sensor, including return temperature control and the utilisation of residual heat

For detailed information see pages 18-19.

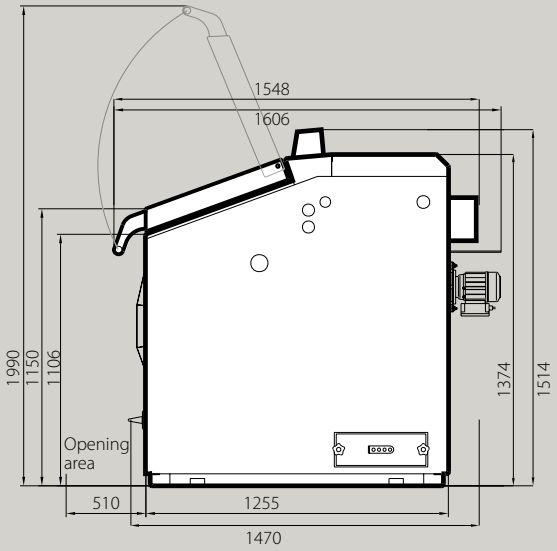
Safety and the environment

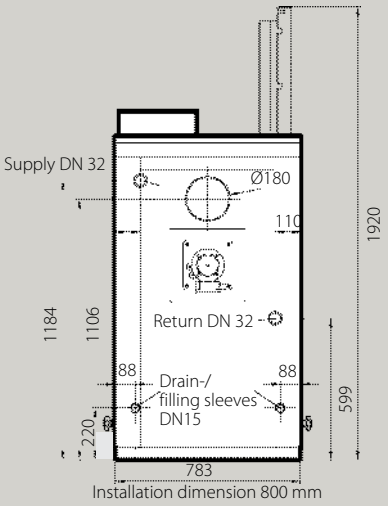
The HDG Euro has lower emission levels than those permitted by law and fulfils all safety regulations of the European countries (as of 07/07).

Delivery ready for connections

The HDG Euro is delivered with electric components ready to be connected and with assembled cladding. This enables a quick and simple installation.

Technical data





HDG Euro		30 LC1	40 LC1	50 LC1
Nominal thermal power	kW	30	40	50
Lowest thermal power	kW	-	30	30
Fuel chamber capacity	l	220	220	220
Fuel chamber width	mm	560	560	560
Fuel chamber depth	mm	407	407	407
Water capacity	l	178	178	178
Flue pipe connection	mm	180	180	180
Required flue draught	Pa	13	14	15
max. permitted operating pressure	bar	3	3	3
max. supply temperature	°C	95	95	95
Boiler weight	kg	979	979	979



HDG Navora

Fuels:
- Log wood up to half-metre logs
- Shaving briquettes

Capacity:
20 kW, 25 kW, 30 kW,
NEW: 40 kW, 50 kW

Comfortable and compact

The HDG Navora excels in highly comfortable operation. Due to its space-saving construction - low installation width and small installation space - it is easy to install in small boiler rooms and therefore it is highly suitable for single or dual family houses

- **Space-saving dimensions**
- **All handling operations - filling, adjustment, cleaning - from the front**
- **Large, wide opening filling and cleaning doors for easy maintenance**
- **Flue gases are exhausted safely through the bypass flap during filling**
- **Cleaning of the vertical heat exchanger surfaces hand operated from the front**

Figure shows an HDG Navora 40/50 KW

HDG continually supports research and development in the field of renewable energies through unique projects in the test laboratories arranged for that purpose.

Awarded with

kwf Innovations Prize 2006

Federal Innovations Prize 2007

„With competent advice from the HDG team, we were able to integrate the HDG Navora optimally in our small heating room."

The Moser family uses an HDG Navora with 30 kW and a 2000 l accumulator for heating.

Demonstratively user-friendly.

Operation of the HDG Navora is undertaken from the front. Here, the large fuel chamber hatch, the operating elements of the control system and the operating lever of the bypass flap are located. Due to the large fuel chamber – this amounts to 150 litre for 30 kW and 195 litre for from 40/50 kW – very long reloading cycles are achieved.
During reloading, the flue gases are exhausted through the bypass flap.

Ingeniously designed: cleaning of the heat exchanger surfaces from the front.

The integrated vertical cleaning turbulators can be operated comfortably from the front.
For the HDG Navora 20/25/30, the operation is connected to the bypass flap, and for the HDG Navora 40/50 an individual cleaning lever is available. This cleaning system enables highly efficient annualized operation.

Easy and quick cleaning.

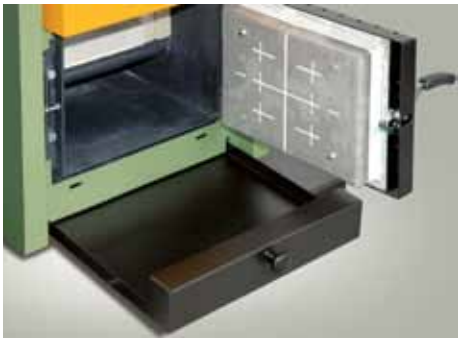
All cleaning hatches are large-size and easily accessible. The combustion chamber of the HDG Navora is made of high quality heat resistant elements. The straight surfaces are easily cleaned from the front. The cleaning tool is included in the scope of delivery.

Quality. For a long lifetime.

HDG heating systems excel in their long lifetime. The HDG Navora is fully equipped in the fuel chamber with exchangeable panels. These protect the quality steel sheets from high temperatures and allow the wood to settle easily.

The whole operation - whether fueling, operating the bypass flap and cleaning of the vertical heat exchanger surfaces. All processes are possible from the front.

The large-size fueling hatch and cleaning door with an opening angle of over 100 degrees make the operation easy.



The boiler is equipped with an integrated ash pan. This allows easy ash removal and is simply pushed into the lower boiler cladding.

Intelligent combustion control HDG Lambda-Control 1

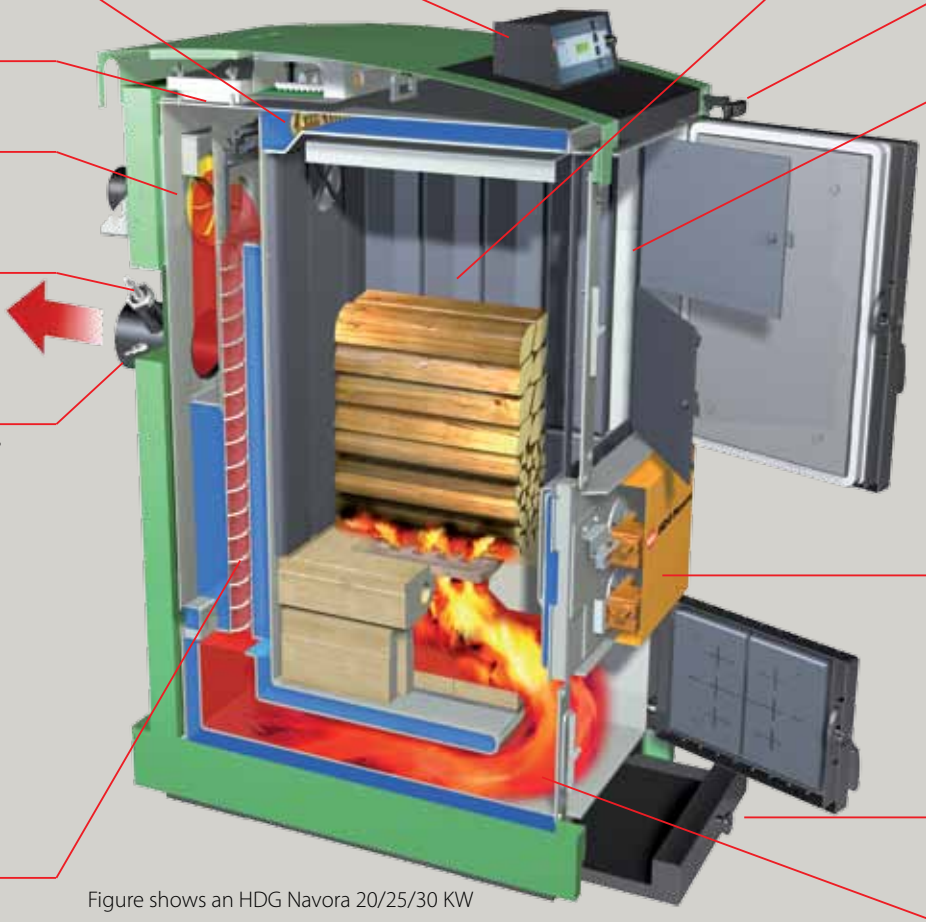
Safety heat exchanger

Cleaning shaft cover

Flue gas fan

Lambda sensor

Flue gas temperature sensor



150-litre fuel chamber capacity up to 30kW
195-litre fuel chamber capacity from 40/50kW

Operating lever for the bypass flap and cleaning

Loading from the front

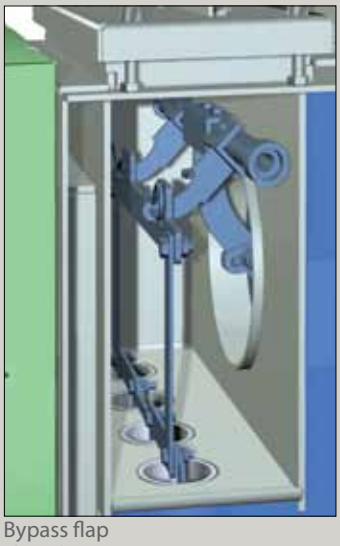
Primary and secondary air control unit

Ash pan

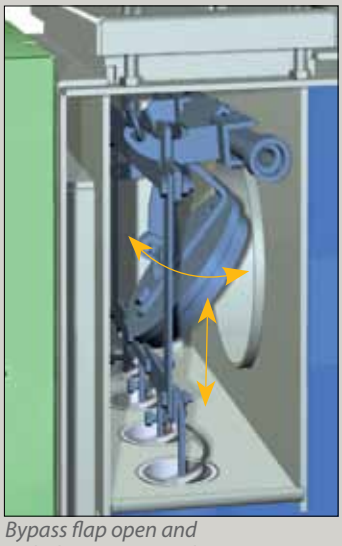
Combustion chamber door / cleaning door

Figure shows an HDG Navora 20/25/30 KW

Automatic cleaning of the heat exchanger surfaces by operating the flue gas bypass flap



Bypass flap closed



Bypass flap open and turbulators activated

The ventilation of the fueling and cleaning doors allows lower temperatures on the outside of the boiler, and thereby the heat stays where it belongs - in your heating system.

The doors can be mounted to the left or right optionally.

Control technology

HDG Lambda-Control 1 (LC1)
Combustion control with Lambda sensor, including return temperature control and the utilisation of residual heat

For detailed information see pages 18-19.

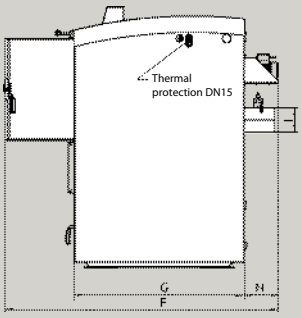
Safety and the environment

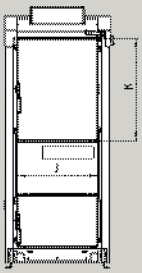
The HDG Navora has lower emission levels than those permitted by law and fulfils all safety regulations of the European countries (as of 07/07).

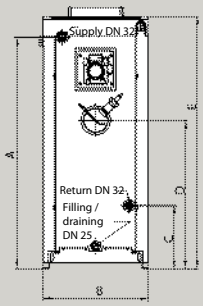
Delivery ready for connections

The HDG Navora is delivered with electric components ready to be connected and with assembled cladding. This enables a quick and simple commissioning.

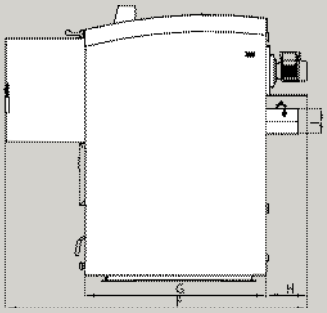
Technical data

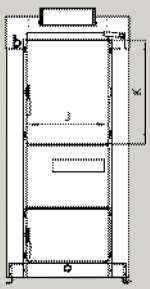


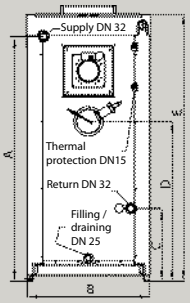




HDG Navora 20/25/30







HDG Navora 40/50

HDG Navora		**20**	**25**	**30**	**40**	**50**
		LC1	**LC1**	**LC1**	**LC1**	**LC1**
Nominal thermal power	kW	20	25	30	40	50
Lowest thermal power	kW	-	20	20	-	40
Fuel chamber capacity	l	150	150	150	195	195
Fuel chamber depth	mm	560	560	560	560	560
Fuel chamber width	mm	330	330	330	430	430
Water capacity	l	168	168	168	245	245
Required flue draught	Pa	9	9	9	9	9
max. permitted operating pressure	bar	3	3	3	3	3
max. supply temperature	°C	95	95	95	95	95
Boiler weight	kg	680	680	680	880	880
HDG Navora - Dimensions						
Flow connection	A	1405	1405	1405	1460	1460
Boiler width (without safety heat exchanger connections)	B	634	634	634	734	734
Return connection	C	382	382	382	435	435
Flue connection	D	900	900	900	955	955
Height of boiler without control unit	E	1532	1532	1532	1592	1592
Total length (with fueling hatch open including flue gas fan)	F	1677	1677	1677	1732	1732
Length of boiler without mounted accessories	G	1031	1031	1031	1085	1085
Protrusion of flue gas fan	H	191	191	191	246	246
Diameter of flue gas pipe connection	I	150	150	150	150	150
Width of fuel chamber hatch	J	490	490	490	490	490
Height of fuel chamber hatch	K	619	619	619	619	619



HDG Turbotec

Fuels:
- Log wood up to 1 metre logs
- Rough chips

Capacity:
50 kW and 60 kW

Comfortable and safe

The HDG Turbotec is the ideal wood heating boiler for businesses, agricultural and forestry plants. Its enormous fuel chamber is 340-litre and can be filled with metre logs.
Its high efficiency enables high economy with low amounts of ash.

- **340-litre fuel chamber**
- **Log wood sizes up to 1-metre long**
- **Highly effective due to its heat exchanger design**
- **Low amounts of ash**
- **Highest efficiency and low emission levels due to the innovative control system HDG Lambda-Control 1**

HDG pays special attention to meeting the highest quality requirements when processing materials and manufacturing the boiler.

Awarded with

DIN registration
(Reg. No. 3R155/05GA)

„Especially in the transitional season, a single filling of my Turbotec often lasts for several days.“

The Krinner family uses a HDG Turbotec with an 5000 l accumulator for heating.

Robust when selected, reliable in operation

The HDG Turbotec ideally suitable for burning metre-long logs. This saves time and work - during the preparation of wood and the operation if the heating system. That is why this is the ideal log wood boiler for use in agriculture and forestry, as well as commercial businesses.

High efficiency and easy maintenance: The combustion technology of HDG Turbotec.

The combustion chamber is clad with fire-proof concrete. After the end of each complete burning cycle, the air flaps close and the fan switches off automatically; therefore the chimney draft cannot cool the boiler down, this raises the overall efficiency. The residual charcoal allows easy re-ignition.

The innovative power and combustion control allows constant heating capacity and low emissions.

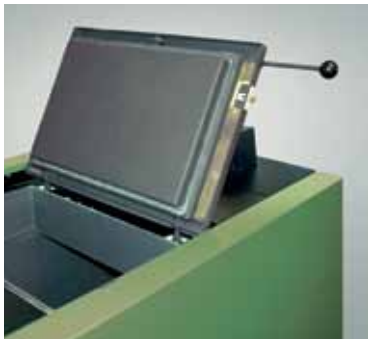
The actuators for primary and secondary air provide the necessary burning air to the gasification and secondary combustion zones. The primary air provides constant capacity, the secondary air low emissions during the complete burning cycle.

The fuel chamber hatch is equipped with an electro-magnetic safety door latch.

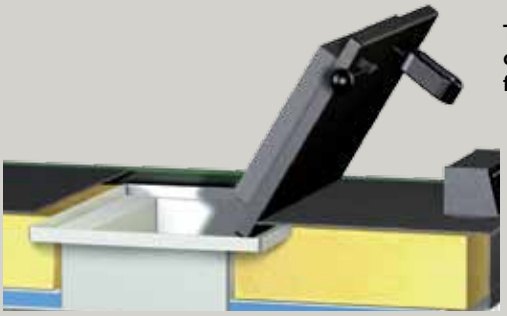
Optional accessories:

Additional fueling hatch

Upon request, we equip the HDG Turbotec with an additional upper fueling hatch - ideal for easy filling with large wood chips and wood waste pieces.



HDG Turbotec with optional top fuel chamber hatch. (delivery times upon request).



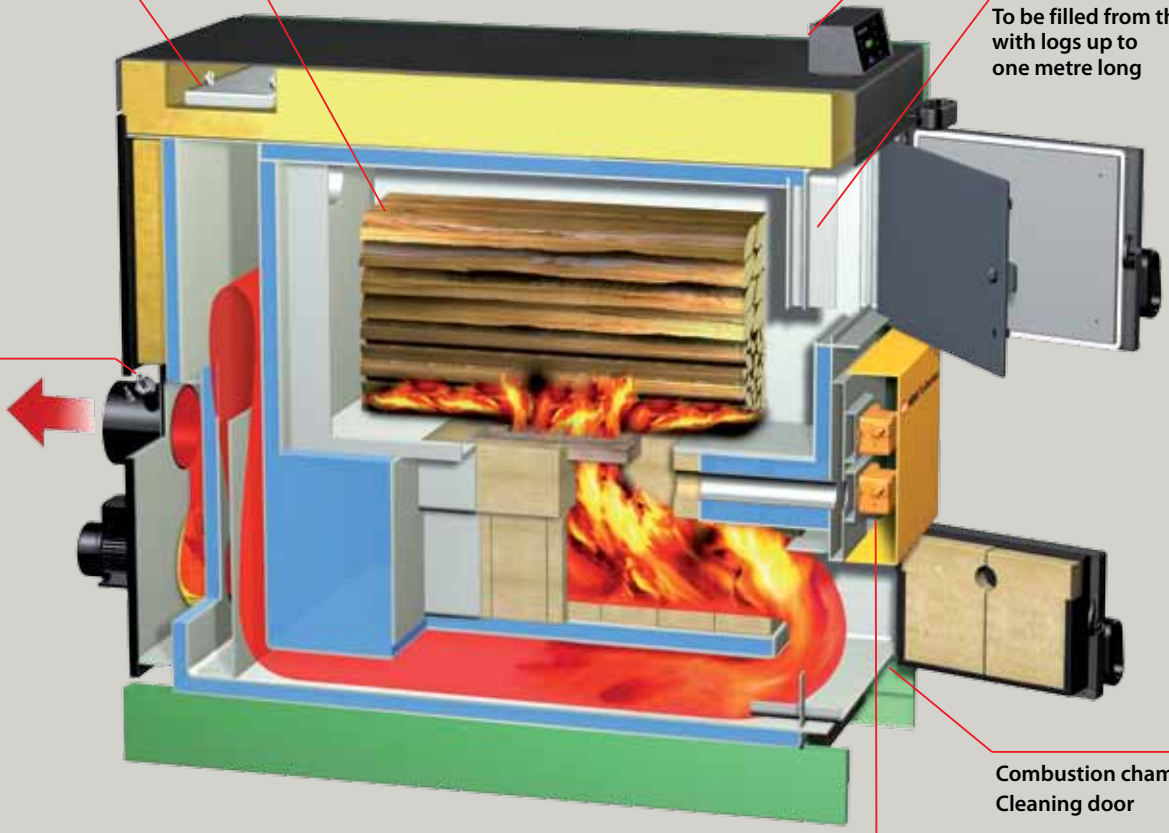
The optionally available upper fuel chamber hatch enables the easy filling of wood waste.

340-litre fuel chamber capacity

Intelligent combustion control HDG Lambda-Control 1

Heat exchanger cleaning aperture

To be filled from the front with logs up to one metre long



Lambda sensor and flue gas temperature sensor

Combustion chamber hatch / Cleaning door

Primary and secondary air control unit

2 actuators for primary and secondary air – integrated in the front cover – provide the required volume of air to the combustion zone.

Control technology

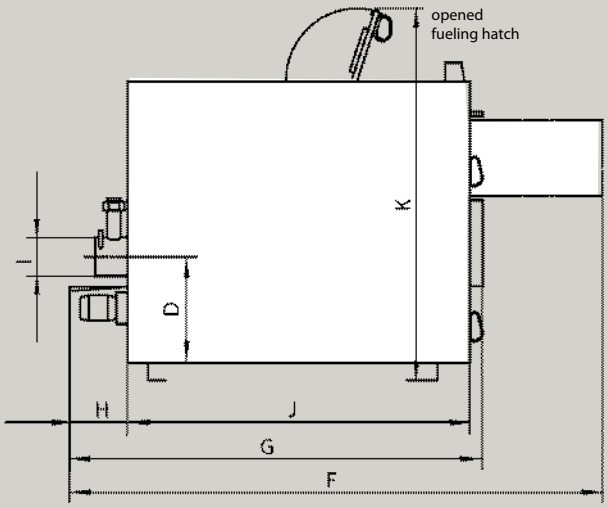
HDG Lambda-Control 1 (LC1)
Combustion control with Lambda sensor, including return temperature control and the utilisation of residual heat

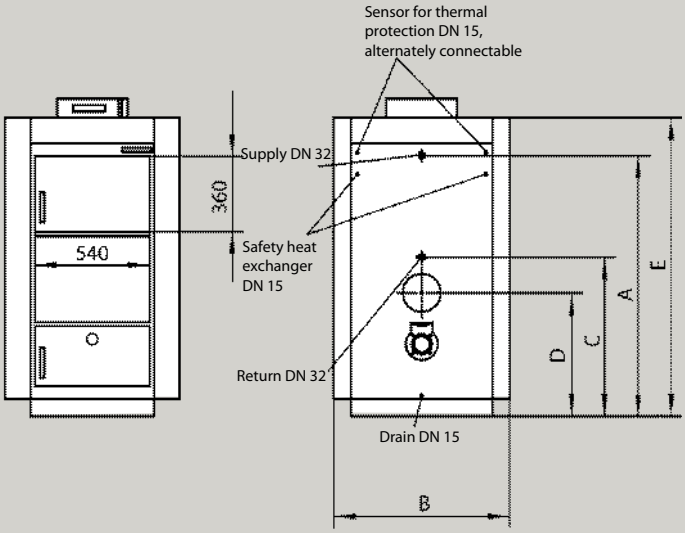
For detailed information see pages 18-19.

Safety and the environment

The HDG Turbotec generates much lower emissions than that permitted by the emission limit regulations of all European countries.
It fulfils all current safety regulations without any problems.

Technical data





Installation dimensions without cladding: 1630 x 690 mm

HDG Turbotec		50 L LC1	60 L LC1
Nominal thermal power	kW	50	60
Lowest thermal power	kW	-	50
Fuel chamber capacity	l	340	340
Water capacity	l	370	370
Required flue draught	PA	15	15
max. permitted operating pressure	bar	3	3
max. supply temperature	°C	95	95
Boiler weight	kg	940	940

HDG Turbotec - Dimensions		50 L LC1	60 L LC1
A Flow connection	mm	1220	1220
B Boiler width	mm	820	820
C Return connection	mm	745	745
D Flue pipe connection	mm	575	575
E Boiler height without HDG Lambda-Control	mm	1395	1395
F Total length with fueling hatch opened	mm	2445	2445
G Boiler length with flue gas fan	mm	1895	1895
H Protrusion of flue gas fan	mm	230	230
I Diameter of flue gas pipe connection	mm	180	180
J Boiler length without mounted accessories and flue gas pipe connection	mm	1605	1605
K Total height with fuel chamber hatch open (option)	mm	1850	1850
Fuel chamber depth	mm	1100	1100
Fuel chamber width	mm	540	540

High-tech for optimal values

The HDG control technology uses modern electronics to achieve low emissions, high performance and an excellent economy of the whole heating system.

HDG Lambda-Control 1

Intelligent energy management
- The integrated return temperature control prevents corrosion damages.
- The accumulator by-pass allows the prioritized supply of heat and water.

Simple and safe handling
- During the filling of burning material and cleaning of the boiler, the fuel chamber is automatically ventilated – the flue gases are exhausted by the flue gas fan.
- An easy-to-conduct safety test is included

Protection program
Once a week - during summer operation, too, - the control starts the protection program automatically to prevent corrosion by ventilating the boiler and the chimney. Additionally, the motors are activated and the mixing valve is moved to the on and off positions in order to prevent the "sticking of moving parts".

Intelligent emission management
In the HDG Lambda-Control 1, the following parameters are measured continuously and shown on the display:
- the residual oxygen in the flue gas with the help of the Lambda sensor, to achieve optimal combustion,
- the flue gas temperature with the help of the flue gas temperature sensor, to achieve a uniform efficiency,
- the temperature of the boiler and the accumulator to determine their operating state.

The HDG Lambda-Control 1 adapts the measured values continuously to the preset optimum values. A uniform combustion quality is achieved also with varying burning material types.

Utilisation of residual heat
The utilisation of residual heat allows the optimal use of burning fuel and achieves very long refilling intervals.

HDG Lambda-Control 1

Functions
- Return temperature control
- Flue gas fan control
- Accumulator by-pass
- Protection program

- Utilisation of residual heat
- Refilling signal and oil/gas boiler activation
- Combustion control with a Lambda sensor and primary and secondary air control

available for:
HDG Euro, HDG Navora, HDG Turbotec

*The **refilling signal** on the display of the controller or the room thermostat shows that the temperature of the accumulator has fallen e.g. under 40 degrees.*
Now it is possible to refill, since the accumulator is again in the condition to receive the energy generated.

*The operation of the control system is very simple. For the daily operation, only the **refill button** is necessary.*

The HDG Lambda Control regulator

Modern electronics allows further improvement of the performance of the wood heating systems.
HDG uses this technology. The HDG Lambda-Control achieves

- high equipment efficiency,
- low heating material use and
- low emission levels.

The Lambda sensor
The optimum installation position on the HDG heating boilers allow a very long life expectancy.

Extended protection program
For the HDG Lambda-Control regulators, the lambda sensor is flushed with air and heated automatically. Therefore, the actuators of the primary and the secondary air flaps are moved in regular intervals.

Combustion control
The HDG Lambda-Control 1 has a sophisticated combustion control function. With the help of the values determined by the lambda sensor and the flue gas temperature sensor, the primary and secondary air flaps can be controlled precisely so that optimum values are achieved even with increasing circumstances.

Components of a perfect system

The economic and ecologic performance of a log wood heating system is influenced critically by the quality and the functionality of the additional components. Therefore, HDG pays special attention to these components.

The HDG components have already proven themselves for years, are improved continuously and are adapted exactly to the complete HDG system design.

Our HDG experts and your trained and competent heating system consultant support you when designing the perfect heating system using these components (accumulators, controller, pumps etc.) - these are adapted to suit your local building characteristics and your personal requirements.

The HDG Fresh water station

The HDG Fresh water station heats hot water hygienically using the indirect principle. An extraordinary operational safety withstanding long-term use is achieved by using quality materials. The whole system is equipped with insulation, in order to reduce the heat loss to a minimum. The high capacity microprocessor-controlled regulator allows the generation of hot water with precise temperatures using simple menus and a multifunctional display. Simple maintenance is possible anytime, since all necessary connections for flushing are readily installed.
The installation of an HDG hot water station offers all advantages of the continuous heating of hot water:
It is only the amount of water required that is heated up. This prevents the growth of bacteria, too.
Minimum static heat loss and low charge temperatures enable lower energy requirements. The energy required is even lower, since there is no need for bacteria disinfections in hot water stations.
The installation of an HDG hot water station is time-saving and incurs lower installation costs.

HDG Fresh water station FW-30

HDG Fresh water station FWZ-30 with circulation pump

HDG System stratified accumulator tank with integrated fresh water generation
KS and KS-R

The stratified accumulator stores energy and releases it when needed. In the summer, it is thereby possible to generate domestic hot water for several days by a single firing of the boiler, and very little valuable energy is lost. Additionally, very long reloading cycles can be achieved with the accumulator tanks adapted to the heating system. The logical consequence: An accumulator tank raises the comfort and the efficiency, and also cares for the environment.

The size of the accumulator shall be adapted to the boiler type, the wood type and the heat requirements of the building. According to the provisions of 1. BImSchV, at least 12 litres accumulator capacity for each litre of fuel chamber volume and at least 12 litres accumulator capacity for each kW shall be provided. When calculating the necessary accumulator size, the provisions of the standard DIN EN 303-5 and the individual comfort requirements shall be taken into account, too.

The different types:

The basic model of the HDG System stratified accumulators is the **KS type.**

For the laminar (without turbulences) and quiet return of the heating return into the accumulator, the cooled-down heating water is fed through the stratified pipe and is therefore stored in the system stratified accumulator at the right temperature level.

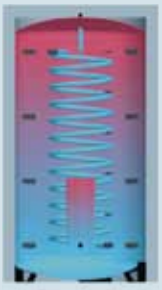
This improves the physically dependent stratification characteristics of the water and allows a more effective use of the stored energy.

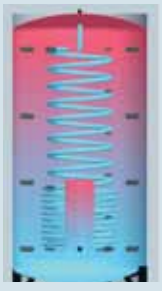
The complete utilisation of the whole storage capacity is achieved by the integrated hot water snorkel leading through the highest point of the accumulator.

Furthermore, the stainless steel corrugated pipe heat exchanger (with DVGW-certificate) installed enables the bacteria- and calcification-free heating of the domestic hot water with a higher tap flow rate at the same time. The insulation of the accumulator consists of a 100 mm thick, FCKW-free soft foam coating with calendered PVC and zip up to a volume of 2000 litres, and a 120 mm thick soft foam coating with PS hard coating with hook fasteners from a volume of 2500 litres.

The **KS-R type** has by default an additional integrated plain pipe heat exchanger (e.g. for solar use).

HDG System stratified accumulator with integrated hot water generation
KS **KS-R**





KS KS-R Content Litre	Height with insulation mm	Tipping dimensions mm	Width without insulation mm	Width with insulation mm	Weight kg KS / KS-R	Corrugated pipe m^2	Heating surface (type KS-R only) m^2
800	1886	1855	790	990	181 / 206	6,8	2,0
1000	2186	2150	790	990	196 / 204	6,8	3,0
1250	1805	1797	1000	1200	209 / 253	6,8	3,0
1500	2155	2137	1000	1200	239 / 284	8,2	3,0
2000	2313	2298	1100	1300	319 / 363	8,2	3,0

HDG System stratified accumulator tank with integrated stratification tube and hot water snorkel
PS and PS-R

The **PS and PS-R type** HDG System stratified accumulators are technically equal to the **KS and KS-R types,** but **without** integrated hot water generation.

The different types:
The basic model of the **HDG System stratified accumulators** is the **PS type.**
The **PS-R type** has by default an additional integrated plain pipe heat exchanger (e.g. for solar use).

HDG System stratified accumulator
PS **PS-R**


PS PS-R	Height with insulation mm	Tipping dimensions mm	Width without insulation mm	Width with insulation mm	Weight kg PS / PS-R	Heating surface (PS-R type only) m^2
800	1886	1855	790	990	106 / 130	2,0
1000	2186	2150	790	990	120 / 164	3,0
1250	1805	1797	1000	1200	142 / 186	3,0
1500	2155	2137	1000	1200	163 / 208	3,0
2000	2313	2298	1100	1300	238 / 282	3,0
2500	2400	2402	1250	1490	288 / 355	4,3
3000	2700	2662	1250	1490	315 / 382	4,3
3150	2462	2521	1400	1640	334 / 377	4,3
4000	3012	3012	1400	1640	427 / 470	5,1
5000	2840	2925	1600	1840	486 / 567	5,1
6000	3340	3375	1600	1840	545 / 683	6,0

HDG – a Bavarian company that is trusted by customers world-wide.

The company headquarters of HDG are located in Massing, Lower Bavaria Germany. The surrounding natural and agricultural landscape is characterised by hills, forests and meadows and, not least of all, by the people who have helped shape them. These are the people who have always taken care to conserve their resources and use them profitably. In keeping with this tradition, HDG does its part in making the raw material wood a timely, responsible and economically sensible form of energy by offering modern products.

Experience creates great products ...

HDG offers a product line that is designed to meets the most varied demands: from log wood boilers to wood chips systems and pellet boilers. With a nominal output of 4.5 kW for private households and up to 380 kW for commercial large-scale plants. This wide variety reflects the established professional experience of the company. And that is the result of orientating our products to the needs of our customers.

... Quality creates trust.

With its broad range of products and services, HDG has managed to gain the trust of users in the agricultural and forestry sectors as well as in commercial businesses and private households. More than 35,000 satisfied customers heat with HDG products - a fact that speaks for itself!

Innovators in the field of wood heating

From the very beginning, HDG has helped to shape the development of wood heating systems and has been a driving force behind this progress with its innovative efforts. Besides the optimisation of combustion technology, the development team also concentrates on improving ease of use. The many awards that HDG has received for its innovations underscore the significance of the HDG developments in advancing heating technology.

Development and production

HDG develops, designs and produces its products at the highest level of quality. Quality assurance starts early in the development phase and is supported by a sophisticated quality management system at all production levels all the way to final assembly. Furthermore, independent testing institutes are charged with performing regular inspections of the HDG products in accordance with the most stringent standards of quality.

Helping to change

Right from its beginning HDG has concentrated on heating systems using wood. Increasing concerns about the environment means that this field is growing in importance.

As in the past, HDG will consistently harness the latest advances in heating technology fuels processing and environmental protection for your benefit. An example of our forward thinking: HDG has been actively involved in a test field for renewable energy plants and for the provision of sustainable energy since 2005.

The management team and over 200 employees who stand behind the HDG name are dedicated to this goal.

TÜV NORD
TÜV NORD CERT GmbH
DIN EN ISO 14001/DIN EN ISO 9001
Freiwillige Zertifizierung