17 years in business!

VERNER®
EXPERT ON HEAT

fireplace stoves

interior boilers

automatic boilers

boilers for lump wood combustion

industrial biomass boilers

Boilers intended for lump wood combustion

VERNER®
EXPERT ON HEAT

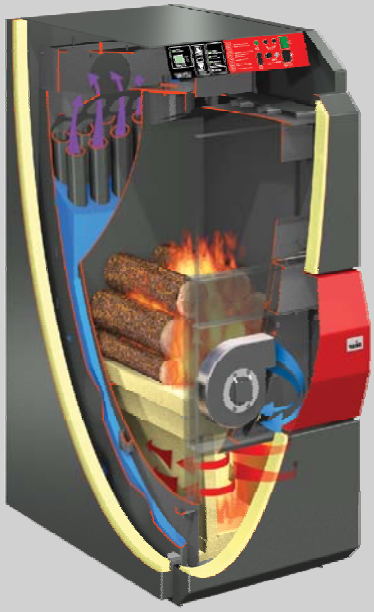
VERNER BOILERS FOR LUMP WOOD COMBUSTION

Are intended for:

- **Comfortable, economic and ecological heating** of family houses, holiday buildings, family hotels, workshops, small workrooms and similar buildings.
- **Combustion with manual stoking** - lump wood,wooden briquettes, plant briquettes, wood chips and sawdust
- **Convenient heating in connection with storage reservoir**

The main advantages:

- **High attendance comfort**
  Boilers are characterized by a huge feeding chamber in which the logs up to 0,5 m long can be combusted. Full feeding chamber provides several hours operation without the attendance intervention even at rated capacity. This interval is markedly increased in the controlled mode.
- **Output regulation (control)**
  Boilers have fluent output control in the range of 50 - 100 %. The output of 0 - 50 % is provided by stand-off mode. There is provided the installation of storage reservoirs with the half volume compared to the competitors systems due to special software.
- **High efficiency - 94,0 %**
  The efficiency is reached by the application of modern construction elements, of sizable combustion exchanger and thick insulation of all boiler parts.
- **Minimum operation costs**
  The wood-heating costs are even 1/2 lower compared to the natural gas. Boilers are characterized even by low electric energy consumption.
- **Long life-time**
  Boilers are produced of stainless steel of 4 mm thickness or boiler-iron of 6-8 mm thickness and special fireproof ceramics. The provided guarantee up to 5 years.
- **Wide basic accessories**
  Boilers have fluent output control, combustion gas temperature sensor and stable heat regulation (control) in standard design variant.



Boiler description and its function:

Boilers are based on the principle of two-stage combustion. During the combustion the fuel is gasified with the subsequent burning of rising gases. During operation the primary fuel combustion is happening in the bottom part of the feeding chamber. The heat arisen by the primary combustion is transferred throught the walls of the feeding chamber into the warmed up water. The rising wood gas flows throught the leak in the bottom of the feeding chamber into the nozzle where the exact secondary air volume is supplied by the overpressure ventilator into the gas. In the area of combustion chamber the secondary combustion happens. Glowing smoke gas flows into the sizable combustion exchanger where its heat is transferred to the warmed up water and after cooling it leaves by the flue neck into the chimney. Minimal volume of the non-combustible waste remains at the bottom of the combustion chamber. It is occasionally removed from there.

Gasification boilers of new generation

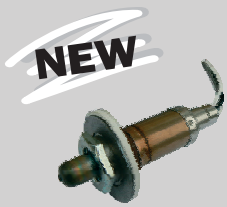
Company VERNER introduced in 2006 innovated set of gasified wood boilers of rated capacity of 25 kW with the **indication „D“**. This latest boilers generation is characterized especially by fabulous combustion efficiency of 94 %. Not only efficiency, however even great output adjustability makes those boilers the top in the European market.

Stainless steel gasification boilers

Boilers models of **indications „GN“** are made of quality stainless steel of class 17 of 4 mm thickness. This material is highly resistant to aggressive gas and condenzation. Life-time of the stainless steel VERNER boilers extremely exceeds life-time of boilers made of regular boiler-iron. The manufacturer provides **5 year guarantee** for the stainless steel boiler bodies.

Gasification boilers with lambda

Design variants of **indications „LS“** are equipped with lambda. The operation of those boilers is controlled base on outgoing water temperature, flue gas temperature, room temperature and oxygen volume in flue gas. That way a strong fuel saving per heating season is reached. There is achieved **the year-long fuel saving up to 25 %** compared to VERNER boilers without lambda. The high-level savings are reached especially at feeding up and stand-off mode. Operation comfort is provided among others by marked intervals extension between the particular fire feedings.



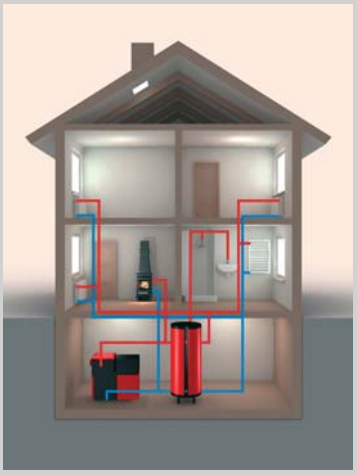
Design variants of VERNER boilers for lump wood combustion

Company VERNER offers totally 8 variants of gasification boilers. Thus, customer can choose any product design variant based on his needs, requirements and preferences.

Rated capacity of 25 kW	x	**Rated capacity of 45 kW**
Boiler body of stainless steel (GN)	x	Boiler body of regular boiler-iron (G)
Boiler equipped with lambda (LS)	x	Boiler without lambda

G25D, GN25D
G25D LS, GN25D LS

G45 GV, GN45
G45 LS, GN45 LS



Boilers intended for lump wood combustion equipped with the additional burner for pellets, gas or oil are already history for us

The reason of their deletion out of company VERNER production programme is the shortfall of customers expectations in practice. Difference in characteristics of particular fuels is so significant that the operation of those boilers was not proved good.

We recommend to the customers who are interested in combustion of lump wood and together in automatic operation a combination:

- Combustion of lump wood and wooden briquettes in VERNER interior boiler
- Combustion of maize, corn and alternative pellets in VERNER automatic boiler

Electronic regulation

Electronic regulation automatically controls boiler output base on outgoing water temperature, flue gas temperature and room thermoregulator informations, event. lambda info. Regulation controls boiler output by the change of ventilator speed. Further, it controls circulating pumps for primary and even secondary circuit. It has even a function of automatic stable-heat mode which provides ventilator shut off yet before complete fuel burn-out. AKU-pack can be installed to this regulation. It is a device that controls boiler output during storage reservoir charging.

Electronic regulation and resistant materials used in case of gasification VERNER boilers ensures optimal combustion from 40 % of rated output without boiler life-time threat.

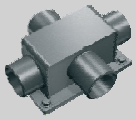
Accessories and equipment of VERNER boilers for lump wood

• Storage reservoir

Optimal combustion is achieved at boiler output within the range of 40 - 100 %. At lower output or during intermittent operation the combustion is low-quality, efficiency experessively falls down, harmful substances production is increased, boiler and chimney is clogged up and boiler life-time is reduced. Storage reservoir is intended especially for thermal energy control optimization in the period when necessary boiler output is lower than 40 %.

Boiler can be operated with the storage reservoir effectively even in this period whereas the surplus output is stored into the reservoir. When storage reservoir is charged, boiler is automatically in stand-off mode and reservoir is a heat energy source for some time (even for several days) in the building. When heat energy is spent boiler must be put into operation again.

• Automatic mixing fitting VERNER



The automatic mixing fitting VERNER is designed for the boiler low-temperature rust protection. It divides heating system into two parts: boiler and heating circuit. Water temperature in each circuit can be controlled separately. That way it is assured that return water temperature into the boiler does not fall down under 60 °C. The other advantage is that boiler water circuit (output of 25 kW) can work by gravity system so there is not necessary to install any circulating pump into the circuit.

• Chimney draught regulator

Chimney draught regulator provides steady draught behind the boiler and creates optimal burning conditions in the heating device. It supports ventilation of chimney venting unit and reduces the condensation danger. Due to its installation the annual fuel savings of 3 - 9 % can be reached.

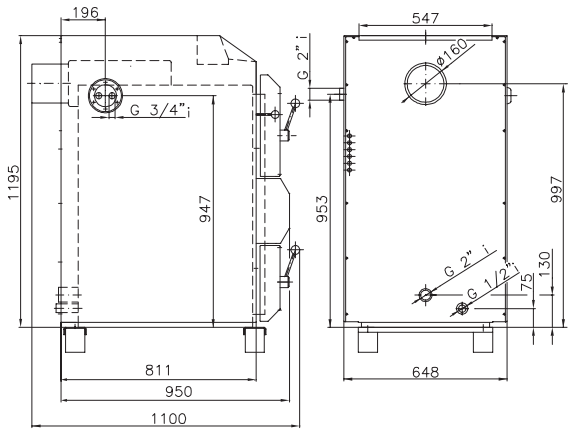
• Flue exhauster

The flue exhauster is designed for the chimney draught support of the furnace for solid fuels. It is situated on the smoke flue between the outlet neck of the furnace and the inlet into the chimney. This appliance limits smoke up at stoking, simplifies and speeds up heat up, increases power heating device dependent on the chimney draught, limits the dustiness during the deashing and the heating device cleaning. Flue exhauster is turned on only at heat up or fire feeding. Regular operation of VERNER boilers is assured by fixed overpressure ventilator. The main advantage of this solution compared to competitive boilers equipped only with flue exhauster is expressively lower noise, elimination of sedimentation, longer ventilator life-time and by 80 W lower energy input on average.

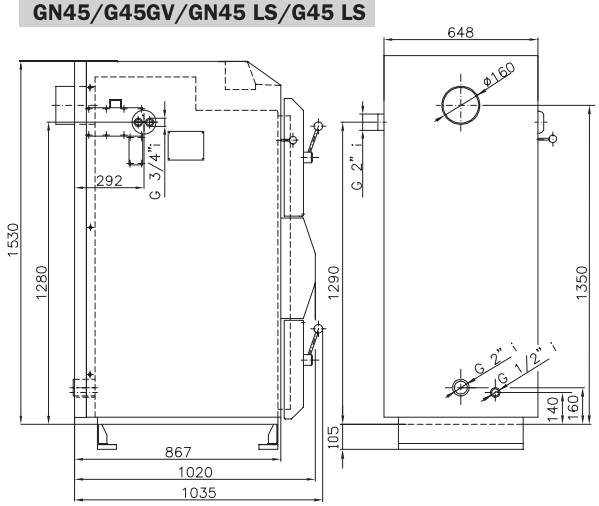
Technical specifications	G25D GN25D	G25D LS GN25D LS	G45GV GN45	G45 LS GN45 LS
Rated thermal output	25 kW	25 kW	45 kW	41 kW
Efficiency	94 %	94 %	91 %	91 %
Fuel consumption at rated output	cca 7,5 kg/hour	cca 7,2 kg/hour	cca 13,5 kg/hour	cca 11,3 kg/hour
Maximum constructional overpressure	300 kPa	300 kPa	300 kPa	300 kPa
Water tank capacity	70 l	70 l	92 l	92 l
Feeding chamber capacity	125 l	125 l	180 l	180 l
Maximum electric input	70 W	90 W	70 W	90 W
Average electric input	35 W	50 W	40 W	55 W
Incoming voltage	230 V/50 Hz	230 V/50 Hz	230 V/50 Hz	230 V/50 Hz
Minimum water return temperature in operation	60°C	60°C	60°C	60°C
Total weight	445/430 kg	450/435 kg	630/570 kg	630/570 kg
Maximum noise level	54 dB	54 dB	54 dB	54 dB
Specified operational chimney draught	15 - 35 Pa	15 - 35 Pa	15 - 35 Pa	15 - 35 Pa

Extended guarantee for boiler bodies - in case of selected design variants the body guarantee up to 5 years.

GN25D/G25D/GN25D LS/G25D LS



GN45/G45GV/GN45 LS/G45 LS



QUALITY GUARANTEE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CQS

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VERNER a.s.
Sokolská 321
549 41 Červený Kostelec
Czech republic
Tel.: +420 491 465 024
Fax: +420 491 465 027
Infocentre: +420 491 462 135
e-mail: info@verner.cz

ISO 9001:2001

www.verner.cz

Commercial representation

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