

SOLAR ENERGY IRELAND®

...setting new standards in modern heating systems and it doesn't cost the earth...

Pricelist 2004/3

**Wood gasification boiler
HV-15**



**Wood gasification
boiler HV 24 S**



**Dual boiler wood / oil-gas
HV / RL**



**Wood gasification boiler
Biturbo BT**



**Solid fuel boiler
BT**



Wood pellet boiler PL 15 & 25



KUNZEL

The Art of modern heating

Prices including 21% VAT

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Price list including 21% V.A.T

Wood gasification boiler HV		
Type	incl. Standard Control panel	incl. Microprocessor Control panel
HV 15	€ 3.776,—	€ 4.797,—
HV 24	€ 4.142,—	€ 4.784,—
HV 35	€ 5.052,—	€ 5.661,—
HV 50	€ 6.192,—	€ 6.826,—
Wood gasification boiler HV-S		
HV 15 S	--	€ 4.874,—
HV 24 S	--	€ 5.281,—
HV 35 S	--	€ 6.138,—
HV 50 S	--	€ 7.273,—
Wood gasification boiler Biturbo		
BT 2030	--	€ 6.784,—
BT 2050	--	€ 8.016,—
Dual boiler wood/oil-gas (Combination HV or HV-S with RL)		
HV 15/RL 20	--	€ 6.359,—
HV 15/RL 27	--	€ 6.381,—
HV 15/RL 35	--	€ 6.652,—
HV 24/RL 20	--	€ 6.689,—
HV 24/RL 27	--	€ 6.791,—
HV 24/RL 35	--	€ 6.992,—
HV 35/RL 20	--	€ 7.644,—
HV 35/RL 27	--	€ 7.766,—
HV 35/RL 35	--	€ 7.937,—
HV 50/RL 20	--	€ 8.820,—
HV 50/RL 27	--	€ 8.942,—
HV 50/RL 35	--	€ 9.073,—
Dual boiler wood/oil-gas (Combination BT with RL)		
BT 2030 /RL20	--	€ 8.912,—
BT 2030 /RL27	--	€ 8.999,—
BT 2030 /RL35	--	€ 9.158,—
BT 2050 /RL20	--	€ 10.090,—
BT 2050 /RL27	--	€ 10.112,—
BT 2050 /RL35	--	€ 10.483,—
Low Nox- low temperature Boiler for Oil or Gas / RL and RL-Unit		
Type	incl. standard control for 1 heating zone	for 2 heating zones
RL 20	€ 2.007,—	€ 2,290,—
RL 27	€ 2.030,—	€ 2,290,—
RL 35	€ 2,315,—	€ 2,580,—
RL25 U	€ 3,645,—	€ 3,999,—
RL35 U	€ 3,930,—	€ 4,280,—
Solid fuel boiler FO		
FO 15	€ 2.6 40,—	--

Price can change without notice.

Delivery & installation charges by arrangement. Solar Energy Ireland terms an conditions of sale applies

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Wood-gasification boilers (HV)

Wood gasification boiler with forced draught fan

The **KÜNZEL** wood-gasification boiler is a special burner for chopped wood of any kind - from course cuttings to logs of over 0.5 m in length. The **KÜNZEL** HV uses approx. 1/3 less fuel than conventional wood burning systems.

Although the **KÜNZEL** wood-gasification boiler is a boiler with "bottom burn-off", the concept is a completely new one. A temperature-controlled forced draught fan is located at the front, behind the panel between the door through which the wood is loaded and the door through which the ash is removed. On demand, the exact amount of combustion air is delivered as primary and secondary air. This process enables the output efficiency to rise as high as 90%, meaning that pollutant emission stays well below the legal limits.



The HV 24 - including microprocessor control panel

KÜNZEL wood-gasification boilers have been thoroughly tested by the relevant German government authorities. They fully comply with the clean-air regulations under the law concerning the protection against harmful effects on the environment (BImSchV) and are certified to the relevant standards

Type HV		15	24	35	50
Nominal output wood	kW	14,9	18 - 26	28 - 40	40 - 50
Volume of filling space	Litres	88	116	155	210
Depth of filling space	mm	400	550	600	600
Dimensions of filling door W x H	mm	380 x 255	380 x 255	450 x 300	450 x 350
Exhaust flow rate (when replenishing)	kg/Sec.	0,011 (0,023)	0,015 (0,030)	0,023 (0,045)	0,030 (0,060)
Draught requirement	Pa	min. 10 bis 18			
Water content	Litres	53	75	106	150
Air fan	Watt	35	35	50	50
A - Width	mm	560	560	650	680
B - Depth	mm	720	870	930	1000
C - Height	mm	1240	1240	1400	1630
D - Height of exhaust connection	mm	1060	1060	1190	1430
Ø Flue gas connection	mm	150	180	180	200
Weight	kg	235	300	380	415

technical specifications are subject to change without notice

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Wood-gasification Boiler Biturbo series

The **KÜNZEL** wood-gasification boiler Biturbo BT is an advanced version of the basic wood-gasification boiler, incorporating all the advantages of that boiler. It can also be filled with logs of over ½ m in length. During combustion, it reaches temperatures of over 1000°C thus achieving an efficiency rating of over 90%. Having two fans, the HV-Biturbo operates with separate intakes for primary and secondary air. A lambda processor controls the speed of both fans (r/min) on the basis of information transmitted by a temperature probe and an oxygen sensor inside the flue duct of the boiler. The processor automatically regulates the boiler performance, load-controlled, between 100% and 50%. The modulating operating mode also increases the annual utilisation rating and combustion time.

Controlling the operation in this way enhances its usefulness during the course of a year.

Even during reduced performance (50% output), this unit complies with the law concerning the protection against harmful effects on the environment through air pollution, noise, vibrations and similar factors. However, for a comfortable and trouble-free operation of the standard version of the HV-Biturbo is fitted with electric ignition. The ignition is automatic it can be set to immediate ignition, ignition at a pre-set time or ignition when the buffer storage tank needs to be recharged.



BT 2030

Type BT		2030	2050
Nominal output	kW	15-30	25-50
Volume of filling space	Litres	136	210
Depth of filling space	mm	550	600
Dimensions of filling door W x H	mm	380 x 300	450 x 350
Exhaust flow rate (when heating up)	kg/Sec.	0,022 (0,045)	0,037 (0,075)
Draught requirement	Litres	90	150
Water content	PA	min. 10 bis max. 18	
Air fan type/ consumption	Watt	46	46
A - Width	mm	600	680
B - Depth	mm	910	1000
C - Height	mm	1355	1630
D - Height of exhaust connection	mm	1170	1480
Exhaust connection Ø	mm	180	200 (seitlich 180*)
Weight	kg	320	420

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Wood-gasification boiler HV-S

Boiler with induced draught ventilator

All the main components of the KÜNZEL HV-S wood-gasification boiler are of the same construction as the components in type HV. Instead of a forced draught fan under the front panel, an induced draught ventilator is fitted on to one of the 3 exhaust connections. The induced draught ventilator creates a negative pressure in the combustion chamber and combustion air flows in through primary and secondary air ducts. The exhaust gas taken in is blown into the chimney. This system is recommended for problem chimneys, e.g. cross section too small, height too low, downwind, etc. The boiler is controlled by the which has two performance levels.

KÜNZEL wood-gasification boilers have been thoroughly tested by the relevant German government authorities. They fully comply with the clean-air regulations under the law concerning the protection against harmful effects on the environment and are certified to the relevant standards.



HV 24-S -shown with two-stage microprocessor control panel

Type HV		15-S	24-S	35-S	50-S
Nominal output wood	kW	14,9	18 - 26	28 - 40	40 - 50
Volume of filling space	Litres	88	116	155	210
Depth of filling space	mm	400	550	600	600
Dimensions of filling door W x H	mm	380 x 255	380 x 255	450 x 300	450 x 350
Exhaust flow rate (when replenishing)	kg/Sec.	0,011 (0,023)	0,015 (0,030)	0,023 (0,045)	0,030 (0,060)
Draught requirement	Pa	min. 10 bis 18			
Water content	Litres	53	75	106	150
Air fan	Watt	65	65	120	120
A Width	mm	560	560	650	680
B depth	mm	720	870	930	1000
C height	mm	1240	1240	1400	1630
D Height of exhaust connection	mm	1200	1200	1310	1530
E Height of exhaust connection	mm	1000	1000	1110	1330
F Depth of ventilator at side	mm	365	365	385	385
G blower depth laterally	mm	320	320	340	340
Exhaust connection Ø	mm	150	150	150	150

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Solid fuel boiler FO

The **KÜNZEL** solid fuel boiler FO 15 is an "omnivore". It can be filled with almost all solid fuels.

Wood: roughly chopped wood, wood briquettes or logs up to 1/3 m in length.

Coal: brown coal (briquettes) or hard coal

Coke: grain III, *Peat:* lumpy

The FO 15 does not need electric power and is therefore an excellent "emergency" heating. The standard version contains a safety heat exchanger for closed systems.

Unusual for a boiler of this class is the after-burn with hot, adjustable secondary air. The non-water-cooled cast-iron grate enhances the combustion quality.

The FO has a boiler thermometer and three 1/2" muffs for the thermally controlled outlet safety valve, pump thermostat and filling and draining cock. A 3/4" muff is installed for the combustion regulator.

The upward pointing flue and the heat exchanger mean that a low chimney draught has no effect on this burnout boiler and tarring is negligible.

The FO 15 has a nominal output of 14.9 kW and is therefore not subject to the Law on Protection against harmful effects on the environment (BImSchV), i.e. an emissions test is not necessary.

An oil or gas boiler can be placed on top of the solid fuel boiler.



FO15
shown with heating regulator



Type FO		15
Output	kW	14,9
Volume of filling space	Litres	70
Depth of filling space	mm	400
Dimensions of filling door W x H	mm	380 x 255
Draught requirement	Pa	0,16
Water content	Litres	68
Weight	kg	200
<i>technical specifications are subject to change without notice</i>		

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Dual Wood - Oil/Gas Boiler

Modern, compact technology - the **KÜNZEL** dual boiler. Two **KÜNZEL** products - the wood gasification boiler and the low-temperature boiler - are placed on top of each other. They are delivered and installed as separate units. The dual boiler may be connected to one common or two separate flue pipes. The use of two separate flue pipes allows the simultaneous operation of both firing systems, allowing a combined heating output. If both firing systems are connected to the same flue pipe, a flue gas thermostat (optional extra) with a 60°C switch point ensures that only one system is in operation at a time.



As, with this dual boiler, the burner is at a higher level, there is less dust intake and thus a lower accumulation of dirt in the system. Another advantage is that maintenance work can more or less be done at eye-level. Space is provided between the wood-gasification boiler and the low-temperature boiler for the installation of a control panel for the low-temperature boiler. The control panel is held in place by two clips and can be pulled out if necessary.

HV/RL24/27 complete with electronic control E23 B and microprocessor control panel

This dual boiler is available with any one of the three wood-gasification models:

- HV 15-50 with forced draught fan
- HV-S 15-50 with induced draught ventilator
- BT 2030 and 2050 with modulating lambda processor control

The low-temperature three pass boiler for oil or gas-fired heating can be freely combined in all three power outputs, 20 kW, 27 kW or 35 kW. The ideal combination depends on which fuel is used mostly, wood or oil/gas; e.g. 50 kW wood with 20 kW oil or 35 kW oil with 15 kW wood.

Type		HV/HV-S				BT	
		15 + RL	24 + RL	35 + RL	50 + RL	2030 + RL	2050 + RL
A - Width	mm	560	560	650	680	600	680
B - Depth	mm	720	870	930	1000	910	1000
C - Height	mm	2100	2100	2255	2485	2240	2485
D - Exhaust connection wood HV	mm	1060	1060	1190	1430	1170	1430
E - Exhaust connection oil/gas	mm	1900	1900	2055	2285	2040	2285
Exhaust connection Ø wood HV	mm	150	180	180	200*	180	200*
Exhaust connection Ø wood HV-S	mm	150	150	150	150	-	-
Exhaust connection Ø oil/gas	mm	130	130	130	130	130	130

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Pellet-boiler PL 15 & 25

Pellets - the new fuel

that doesn't cost the earth

For the last few years now, people have been talking about an environmentally friendly fuel which is produced and used in Germany and other parts of Europe and the World. Imported in to Ireland and hopefully will be produced here to.

The "Wood Pellet".

Pellets are made up solely of natural, renewable raw material for which no forests have to be felled. Practically no sulphur dioxide, one of the main causes of acid rain and thus of forests dying, is emitted when pellets are burned. The ash is an excellent natural fertilizer for fields and gardens.

Heating with wood has many advantages. On the one hand, the fuel is mainly produced locally and on the other hand wood has an even CO₂ balance and does not contribute towards aggravating the climatic conditions as other fossil fuels do.

Heating with wood is using regenerative energy. For this reason most of our European neighbours (Germany, Northern Ireland, England, Wales and Scotland) have grants available for the purchase of automatic pellet boilers and renewable energy systems installed in there homes.

The KÜNZEL Pellet Heating

Boiler is not only installable in the boiler room but due to its compact construction it can fit in almost any utility room, garage or outhouse.

The PL Boiler works fully

automatically apart from having to be refilled occasionally with pellets (every 3 - 4 days) and the ashtray having to be removed and emptied every 3 to 4 weeks. Pellets cause much less dust than firewood. Electrical ignition and

The Boiler



PL15

The Fuel



Pellets made from Wood
CO₂ neutral fuel

minor amounts of reloading work means that the boiler is easy to use.

The boiler can be fuelled with pellets of 6mm and 8mm diameter, which meet the EU standard DIN 51731. They are available in 15 - 20 kg bags in Ireland and delivered to your door.

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The boiler is microprocessor controlled. Easily understood symbols makes the operation easy, even for those to whom technical matters are foreign. Just load the pellets, press "Start" and enjoy the cosy warmth.

Options for the PL boilers as an option the boiler can be fitted with an on-off control system (type: E 233 B) controlled by weather conditions. For a 100% renewable energy solution the Künzel pellet boiler combined with a solar thermal system is the perfect choice for all of your heating and hot water needs. This way up to 60 - 70% of your domestic hot water and up to 25% of the energy towards your *space heating can be produced by the sun for **free** this of course reduce the running cost of the system.

The thermal output heats a normal detached family house insulated to

Irish building standards 2003 and in combination with a *low energy heating systems. However, a combination with oil or gas heating is also possible and thus contribute towards an environment-friendly heating in larger buildings

The boiler efficiency of over 90% ensures optimum fuel utilisation and low operating costs for the owner. A rule of thumb says that 2 kg of wooden pellets replace approx. 1 litre of heating oil. The pellet quantity of 220 litres (approx. 140 kg) stored in the integrated container are enough for an average of 3-4 days at the rated load, and up to one week at partial load depending on how the building is insulated. The pellets in the storage container are protected against burn-back due to a combination of spiral conveyor and down pipe. All parts of the combustion chamber subject to high thermal stress are made of acid proof special steel. An integrated, swivelling, induced draught ventilator makes it possible to install the boiler in almost any fitting position.

Pellet Suppliers in Ireland:

Balcas LTD Tel. no +44(0)28 6632 3003

Galtee Fuels LTD Tel. no. 069 65200

Type PL	15-PL	25-PL
Nominal power wood	14,9 kW	25 kW
Fuel	Pellets size 6 mm and 8 mm accord. DIN AND PVA	
Power supply	230V / 240V 16 A 50 Hz	
Power consumption	65 W	
Water boiler size	60 litres.	
Pellet storage capacity	260 kg	
Pipe connections	1" (25,4 mm)	
Filling and draining cock	1/2" (12,7 mm)	
Flue gas connection Ø	100 mm	
Ash box	approx. 18 litre.	
Emission flow rate	0,011 kg/s	
Co2 content	10,5 %	
Flue gas temperature	160° C	
Draught requirement	5 Pa	
Accessories	Cleaning brushes	
Starter kit	15 kg Pellets	
Order no.	150005	150006
Unit Price excl. 21% V.A.T.	€6,933. - (incl. control panel)	€7,510. -(incl. control panel)
<i>technical specifications & price are subject to change without notice</i>		

Delivery & installation charges by arrangement.

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