

Old Problem, New Solution



Why Bio-Energy?

Biomass fuels are sustainable, renewable AND carbon neutral, making biomass a sensible & economically viable solution for many heating projects such as Homes, Communities, Offices & Industry.

No Limits

When it comes to renewables don't limit yourself to just one fuel. The CN range of boilers has been developed to burn almost all forms of biomass and solid fuel.

Sustainable Fuel

Commercial supplies of biomass fuels such as Pellets and Wood Chip are readily available throughout the UK and Ireland and can be supplied in bags or in bulk containers – just like having an oil tank in your back yard. Check out www.actionrenewables.net or call us for a list of your local suppliers.

Easy Fitting

This range of CN boilers can be easily fitted into your existing heating system with little or no adaptation to your current plumbing. Boilers can be used in both open vented & pressurized systems as part of a radiator or under floor heating.

The recent upward trend in Oil and Gas prices has caused many home & business owners to reflect on the finite nature of fossil fuels and take another look at renewable sources of energy.



Typical Fuels

Wood Chip

Preferred particle size is GS 30, but the CN range of boilers can handle a wide range of wood chip can come from various sources - clean recycled wood, forest residues, aboriginal arisings etc, with moistures up to 50%.

Grain and its by Products

Whole grain, chaff straw, oil seed rape, waste grain etc.

Straw

And automated straw bale handling system is available.

Energy Crops

Chipped Willow, SRC and Miscanthus.

Logs

Wood logs, straw logs, paper logs etc.

Joinery Arisings

Sawdust, shavings, off-cuts etc.

Contact us to discuss the fuels you have to see how they can be used for energy

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SiENERGY
Ltd

Multi Fuel Boilers



SiENERGY
Ltd

CN MASKINFABRIK A/S
Skovlækkevej 4 - Tiset
6510 Gram - Tlf. 74 82 19 19



CN Maskinfabrik A/s Biomass Boilers

CN Maskinfabrik A/S are a small specialist Danish manufacturing company offering a range of biomass boilers 15 kW – 120 kW. Utilising well proven technology, the boilers are capable of utilising a range of fuels from wood and grain to straw. Fuels can be switched to suit supply with minor alterations to the plc control system. Manufactured from high quality steels and with 20 years of manufacturing experience the products come from a long sound pedigree.

CN Biomass Boilers start at 15 kW for domestic use to 120 kW for the small industrial sector. All the boilers are based on the same proven 3 pass combustion system with a separate stoker and fuel hopper to suit the site, type of fuel to be used and end user's requirements.



CN15 Unit- 15 kW boiler + Integral fuel hopper and control system

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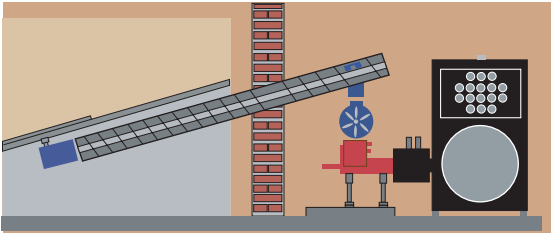
CN25 boiler boiler plus fuel hopper with fire grate for burning logs.

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CN Stoker system can be adapted to suit the fuel and space available. For utilisation with dry fuels up to 30 % moisture as standard; with a step grate for wet fuels up to 50 % moisture and for difficult fuels such as straw a ram stoker can be utilised. The stoker can be placed to either side of the boiler or to the rear. Auto ignition can be fitted as standard.

CN Fuel Hoppers sized to suit the client's requirements can be fitted to all the boilers above 25 kW. Ranging from 250 li to 20m3. There is also the possibility to handle fuel from larger stores, utilising augers or a vacuum system. For larger systems the CN Biofeeder can be utilised, incorporating a rotary sweep arm within the fuel bunker feeding an auger linked to a cell wheel metering system and stoker/ controller system.



CN Biofeeder –
A rotary silo unloader + auger to cell wheel and stoker system, linked to a CN Boiler

CN Boiler Control System

CN Boiler Control System utilises Techno-matic's proven TM 3010 control unit. This monitors O2 via a Lambda sensor in the flue, linked to the temperature of the flow and return water to the boiler. By monitoring these and controlling closely the combustion air and fuel feed rate, high levels of efficiency and low levels of emissions are achieved.

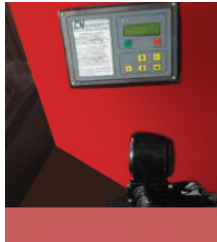


2500 li fuel hopper –
control system on hopper + step grate for difficult fuels.

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TM 3010 control system -
mounted on the fuel hopper.

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CN Boiler safety is primarily with electrical thermostats and ultimately with a burn back fire extinguisher system as standard. With airtight inter locked hopper lids (Opening stops the combustion system), or a cell wheel system, the addition of air to the combustion system is strictly controlled via the combustion air fan. Cooling spiral as standard for added safety when burning logs and solid fuels.

CN Boilers fully comply with the European standard EN 303-5 to the Class III standard. With testing taking place at the independent Danish Technological Institute. Approved by SEI & Action Renewables. These products are also approved in the UK under the ECA programme.

Running costs with high combustion efficiency; low electrical power consumption; rugged construction and straightforward maintenance, result in low overall running costs.

Being able to utilise a range of locally sourced, low cost sustainable biofuels, is another key to the longterm success of these biomass installations throughout the UK and Ireland.

Auto ignition can be fitted as standard to allow convenience of starting this process and is performed by blowing hot air out of the fuel which begins the combustion process.



The availability of the fuel is one of the keys to success with any biomass system. The strength and quality of build and design of the CN system allows for the greatest variation in fuel particle size, moisture content and fuel type. This gives you the customer the ability not to be tied to one fuel.

CN Maskinfabrik

Biomass boilers - technical data

Dimension	Unit	CN15 Unit	CN25	CN40	CN80	CN120
Height	mm	1030	1020	1400	1700	1780
Length	mm	1050/2200a	1040	1470	1800	1800
Width	mm	500/800	670	800	980	1180
Flow/return	inch	1"	1 1/4"	1 1/2"	2"	2"
Flue Dia	mm	133b	155	187	250	250
Firebox Diamter		380	470	630	815	970
Firebox Depth		430	750	1150	1450	1450
Out put (Pellets)	kw	15	25	50	80	120
Pressure	bar	2.5	3	3	4	4
Water capacity	li	60	180	275	490	560
Weight	kg	410	340	720	860	1160

Burning Heads Standard Grate - dry material < 25% Moisture, Step Grate- < 50% moisture content, Moving Grate- for high ash fuels (waste grain)	Auto ignition Auto de-ashing.
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Fuel hopper + stoker - technical data							
Dimension	Unit	CN250	CN400	CN700	CN1250	CN2500	CN4000
Height (a)	mm	1800	2200	2250	1100 (closed) 2600 (open)	1600 (closed) 3100 (open)	2100 (closed) 3600 (open)
Length (b)	mm	1410	1410	1580	2850	2850	2850
Width	mm	600	650	780	1600	1600	1600
Stoker length (c)	mm	570	570	570	570	570	570
Capacity	kg	260	270	290	520	1050	1700
Volume	li	250	400	700	1,25m3	2,5m3	4m3

Larger hoppers available 5m to 20m3 capacity. Prices on application - special build.

NB a = height including hopper lid open b = overall length, incl. stoker unit. c = wet wood step grate additional 400 mm to stoker length (for chip moisture above 30%)	CN 25/40/80 and 120 can have the stoker attached to either side or the rear of the boiler.
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