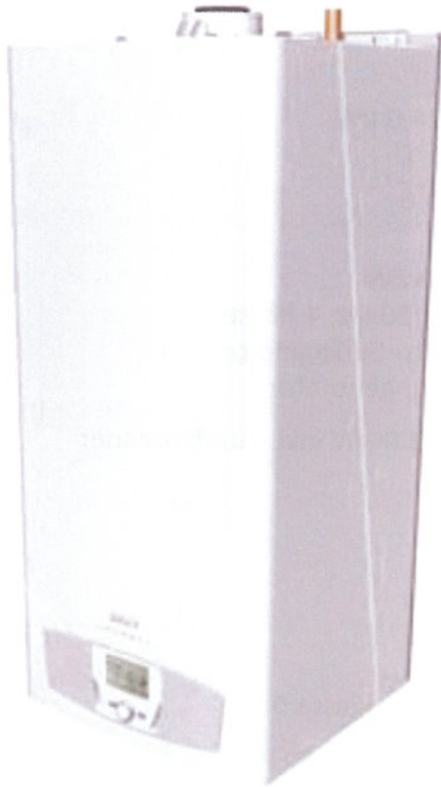


Strom und Wärme aus Erdgas



Stirling-Heizgerät Ecogen mit Zusatzbrenner

Strom- und Wärmeerzeugung

Unternehmenssitz / Ansprechpartner
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Energieträger

- Erdgas

Nutzung

- Bereitstellung von Wärme und Strom

Anwendungsbereich

- Ein- und Zweifamilienhäuser
(Gebäudebestand)

Voraussetzungen

- Geschlossene Warmwasser-Zentralheizung
mit zentraler Warmwassererwärmung
- Anschluss an das Gasnetz
- Mindest-Wärmebedarf

Stirling-Heizgerät Ecogen mit Zusatzbrenner

Technische Daten Ecogen

Wärmeerzeugung

Heizleistung	6 kW
Heizleistung Zusatzbrenner	18 kW
Modulierbarkeit	3,5 – 24,0 kW
Vorlauftemperatur	50 / 82 °C
Rücklauftemperatur	30 / 70 °C

Stromerzeugung

Elektrische Leistung	0.2 – 1.0 kW
Elektrischer Anschluss	230 V _{AC} , 50 Hz, 1 Phase
Antrieb	Freikolben-Stirlingmotor
Generatortyp	Asynchrongenerator

Brennstoff-Leistung

Gesamt-Wirkungsgrad	3,5 bis 25.0 kW inkl. Zusatzbrenner
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92%

Brennstoff

Anschlussdruck	Erdgas
Max. Gasdurchfluss	20 mbar
	2.5 m ³ / h

Betriebsgeräusch <45dB(A)

Schadstoffemissionen Erfüllt NO_x Klasse 5

B/T/H 426 / 425 / 920 mm

Gewicht 110 kg

Aufstellung Innen, wandhängend

Einsatz:

Der Wärmetransport zu den Verbrauchern erfolgt direkt über den Heizungskreislauf. Strom wird in das Hausnetz eingespeist. Überschüssiger Strom wird in das Netz der öffentlichen Versorgung abgegeben, über die Eigenerzeugung hinaus gehender Strombedarf wird vom Netz bezogen.

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Clean and efficient energy for the home

BAXI Ecogen

Our energy requirements are continually increasing and yet resources of the fossil fuels we use to generate that energy are depleting. The International Energy Agency (IEA) estimates that world energy demand will increase by over 50% between now and 2030 if policies remain unchanged. In addition, it is well documented that the burning of those fossil fuels is causing a build up of greenhouse gases that contribute to global warming.

In light of this, it makes sense to make the best possible use of our natural resources to produce clean and efficient energy within the home.

Micro-generation provides a solution to address these issues.

What is micro-CHP?

Combined heat and power (CHP), or cogeneration, is the process of generating both electrical power and useful heat from a single source. Large scale CHP, suitable for commercial applications, has been around for some time. The latest development includes Baxi Ecogen, essentially a gas boiler, similar in size to a normal wall hung boiler, which generates electricity for use in the home while providing heating and hot water.

The Baxi Ecogen unit uses a Free Piston Stirling Engine to generate 1kW of electricity per hour that can be used in the home, while providing up to 24kW of thermal output for space heating and hot water. It has been developed to operate virtually noise and vibration free, and is more than 90% efficient.

A number of Baxi Ecogen units have been installed in homes for over a year, successfully providing domestic heat and hot water as well as generating electricity. These field trials and our laboratory testing have indicated savings of 1 tonne of carbon dioxide and a significant reduction in energy bills.



How does Baxi Ecogen work?

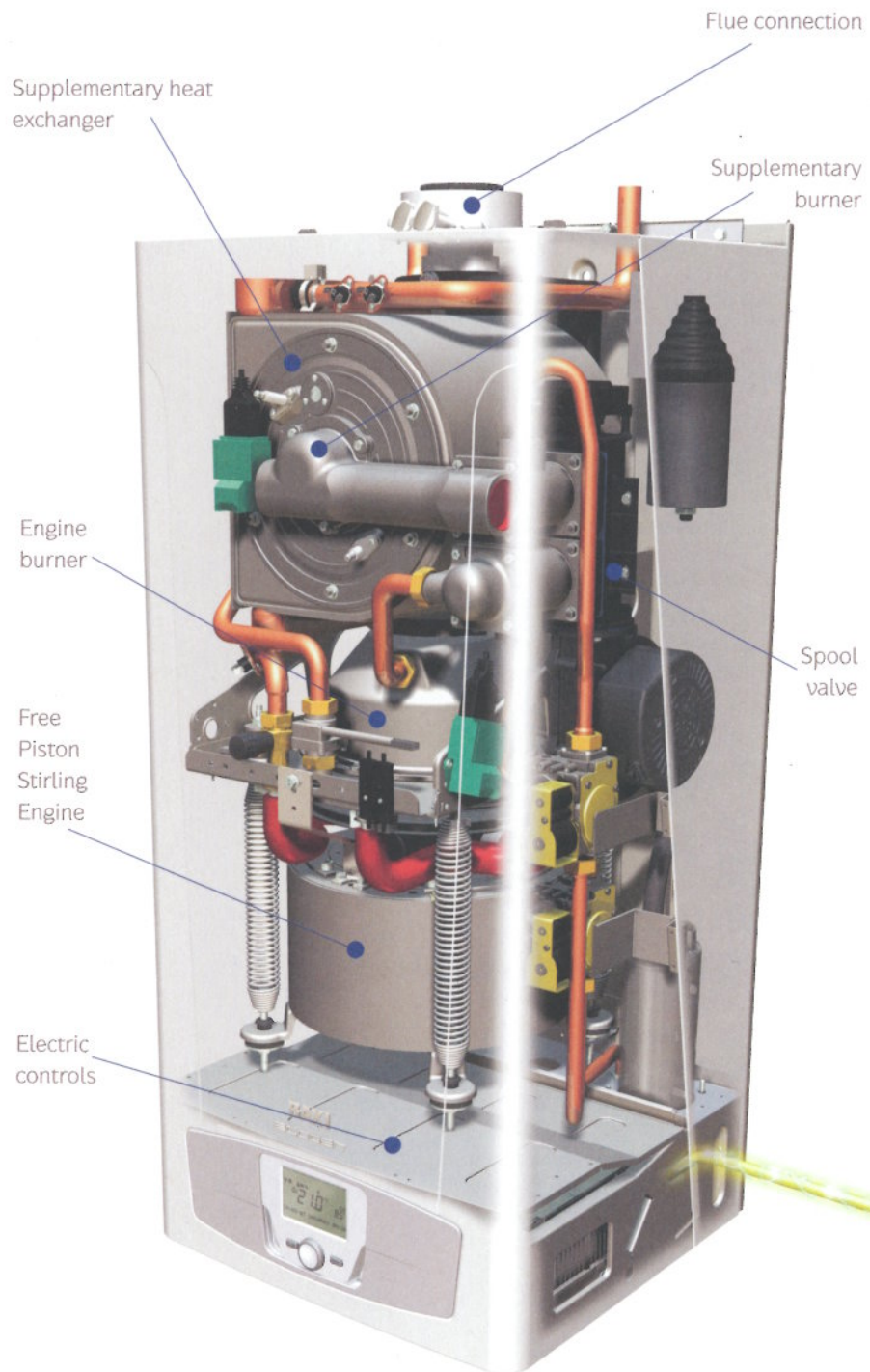
The Baxi Ecogen unit is a boiler that can meet all space, heating and hot water requirements within the home.

The unit responds to the initial heat demand of up to 6kW by igniting the heat source for the Free Piston Stirling Engine. This generates 6kW of heat and 1kW of electricity by driving a magnetic piston up and down within a generator coil.

If the heat demand goes above 6kW, the supplementary burner will fire up and can offer an additional 18kW of heat. As heat demand falls within the home, the unit modulates down to as low as 3kW, while still generating electricity.

Who benefits?

- The environment: electricity generated locally, creates a significant reduction in carbon emissions and is much more efficient
- The homeowner: saving money on electricity bills by off setting electricity consumption or selling unused electricity back to the grid
- The specifier and housebuilder: Baxi Ecogen offers an effective way of assisting the UK Government's targets towards low carbon homes.
- The utilities: Baxi Ecogen offers an effective mass market way of meeting the UK Government's Carbon Reduction Targets within the CERT Program.



BAXI Ecogen

Baxi already has Baxi DACHS mini-CHP in the range and are working on the next generation of low carbon micro generation technologies.

Baxi DACHS mini-CHP (Internal Combustion Engine)

Generating electricity as well as heat, the Baxi DACHS mini CHP is widely used as a more energy efficient way to heat and power buildings, with less reliance upon centralised power generation.

The Baxi DACHS mini-CHP unit can be configured to suit many applications including hotels, schools and multi-tenanted accommodation. The unit produces 12.5kW thermal output and 5.5kW of electricity, offering substantial carbon and economic savings. This unit can operate using natural gas and LPG.

Baxi Fuel Cell Technology

Baxi is working on Proton Exchange Membrane (PEM) Fuel Cells technology, which uses hydrogen and oxygen as a basic fuel source in an exothermic reaction to produce heat and electrical energy. These units will be suitable for domestic applications and will offer high electrical efficiencies and very low carbon emissions. They are currently undergoing extensive field trials within the UK and Europe.

Baxi Ecogen 24: wall mounted high efficiency micro combined heat and power unit		24 HE
CONTROLS		
Programmable Room Thermostat		Removable
230V Wiring Control		Integral
Cylinder Sensor		Optional
THERMAL CHARACTERISTICS		
Gas Supply Pipe Size	mm	22
Natural Gas		Yes
Inlet Supply Pressure	mbar	20
Maximum Gas Rate	m ³ /hr	2.5
Heat Input	kW Max Net	25.3
	kW Min Net	4.0
Heat output condensing (40°C Mean)	kW Max	25.2
	kW Min	3.7
NOx	Class	5
ELECTRICAL CHARACTERISTICS		
Electrical output	kW Max	1.0
	kW Min	0.2
Electrical Supply	Volts/Hz	230/50
Power Input / Output (permanent live)		1
Electrical Cable Required		3 core x 0.75mm ²
External Fuse Rating	Amps	13
Pump Overrun Required		Yes
Integral "Boiler Only" Frost Thermostat		Yes
EFFICIENCY		
Overall efficiency	%	92.0
MECHANICAL & HYDRAULIC		
Compartment Ventilation Required		No
Flow & Return Pipe Size	mm	22
Condensate Discharge Pipe Connection	mm	21.5
System Bypass Required		Yes
CONCENTRIC FLUE SYSTEM		
Outside Diameter	mm	100
Standard Horizontal Flue Kit Length	mm	850
Max Equivalent Length Horizontal	m	5 plus Terminal
Max Equivalent Length Vertical	m	5 plus Terminal
Equivalent Length per 135° Bend	m	0.5
Equivalent Length per 90° Bend	m	1.0
DIMENSIONS, WEIGHTS & NOISE		
Height	mm	920
Width	mm	426
Depth	mm	425
Sound pressure level at a distance of 1m	dB(A)	< 45
Max Installer Lift Weight	kg	115

For further information, please visit
www.baxiecogen.com

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