PowerBloc
Natural Gas Fired CHP

Hoval

Responsibility for energy and environment

Output range 65 to 520 kWth / 43 to 404 kWe

By Appointment to
Her Majesty the Queen
Boiler Manufacturers & Engineers
Hoval Limited, Newark

Why choose PowerBloc?

Hoval PowerBloc CHP plant offers high efficiency local power and heat generation whilst keeping emissions to a minimum. Our wide range of CHP units will suit almost any customer's requirement.

Economical

Super high efficiency

- **Reduced energy bills** through the simultaneous production of both heat and electricity
- **Up to 90% efficient** when running at optimal output
- **Compliant** with the CRC Energy Efficiency Scheme (CR-CEES) targets

Ecological

Low impact on the environment

- **Low emissions** are achieved when compared to the power station and separate boiler method of producing electricity and heat
- **Efficient cogeneration** where full heating load is available
- **Clean and economical** when running at optimal output

Easy to use

Touch screen interface

- **Remote plant monitoring** using the internet
- **Easy integration** into existing heating systems
- **Compact design solutions** available for new builds and renovation projects

Sophisticated

Versatile operation

- **Fully automatic control** including synchronisation to main distribution network
- **Simple BMS integration** allows for full external control and monitoring
- **Skid mounted or containerised** to allow for simple and quick installation

The Hoval PowerBloc CHP unit provides extremely high efficiencies and offers numerous features that make it an excellent choice for upgrades and new installations.
At Hoval we can help engineer the perfect system for almost any application.

PowerBloc CHP
High efficiency cogeneration

PowerBloc CHP
Efficient energy production

Sustainability

The efficient use of finite energy reserves is one of the most important challenges faced by modern engineers. Cogeneration, or CHP, is recognised as a clean and efficient technology for the generation of heat and power.

CHP is particularly suited to applications where there is a constant demand for heat all year round, such as hotels and leisure centres.

CHP with Hoval

Hoval CHP units use a specifically designed gas engine to drive a synchronous generator producing an electrical output. The heat from the engine is transferred to the heating system via a sequence of heat exchangers producing a flow temperature of 90°C.

Hoval CHP units are delivered pre-assembled and skid-mounted for ease of installation. A range of sound reduction housings and containers are available.

Financial Investment

Hoval CHP units can reach combined efficiencies of over 90% ensuring the best possible return on your investment.

As well as providing security of power supply, Hoval CHP helps protect you against the effects of turbulent energy prices.

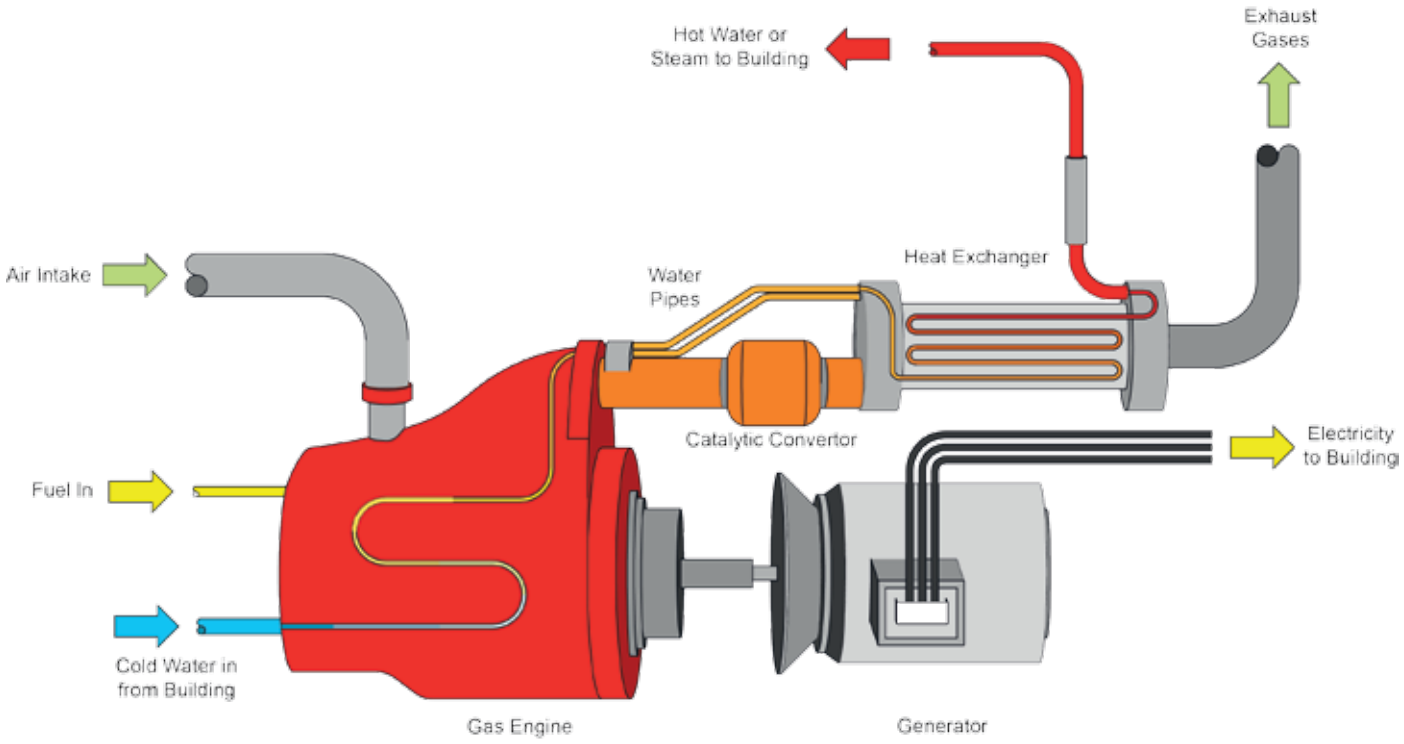
Hoval CHP can be used as a back-up electricity generator (with additional cooling fans) saving you the cost of hiring additional plant.

Technical data PowerBloc		EG-43	EG-50	EG-63	EG-70	EG-104	EG-140
Electrical output	kWe	22-43	25-50	31-63	35-70	52-104	70-140
Heat output (+/- 5%)	kWth	40-65	53-81	58-95	67-114	77-142	130-207
Total efficiency (at 100% output)	%	83.7	90.3	89.3	90.2	87.2	90.4
Natural gas consumption* (+/- 5%)	m^3/h	12.94	14.54	17.75	20.46	28.28	38.52

***Minimum pressure must be 18mbar at maximum output**

Subject to modification

PowerBloc CHP - Explaining the basics



How it works

- A CHP unit can be compared to a car engine. As the engine drives the car, heat is generated. This is normally used to power the in-car heating. In a CHP unit, this heat would be transferred into the heating system.
- At the same time, the CHP engine drives a synchronous generator to deliver electrical output.
- Heat generated by the engine as well as heat from the exhaust gases is recovered via a series of heat exchangers.
- A consistent hot water flow temperature of 90°C is achieved.

Best practice guidelines

- Hoval PowerBloc CHP is ideal for installations with a high heat and electrical base load.
- To gain maximum efficiency out of your PowerBloc CHP it should be matched to the base heat load of the installation. This ensures the CHP always operates at its maximum output and efficiency.
- A range of sound-reduction devices can be installed such as insulation housings, containers and additional silencers.

Technical data PowerBloc		EG-200/50	EG-200/80	EG-240	EG-250	EG-365	EG-404
Electrical output	kWe	100-200	100-200	118-240	125-254	182-365	202-404
Heat output (+/- 5%)	kWth	161-269	178-293	220-365	185-321	280-496	297-520
Total efficiency (at 100% output)	%	87.2	89.2	90.4	84.5	90.1	88.4
Natural gas consumption* (+/- 5%)	m^3/h	53.96	55.47	67.10	68.20	95.79	104.81

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PowerBloc CHP
Efficient energy production

Skid mounted for simple installation

Extract air duct for external ventilation

Touch screen controller provides a simple user interface

Natural gas engine

Heat extraction for efficient temperature control

Synchronous generator for three-phase power production

Exhaust gas heat exchanger and combined silencer for optimal heat transfer and noise reduction

Anti-vibration mounts to reduce noise transmission

Hoval system solutions
A professional integrated approach

UltraGas®: The Engineers' Choice

The UltraGas® condensing boiler delivers the highest efficiency and cost effective performance on the market. Highly versatile and simple to maintain, the UltraGas® has excellent heat transfer due to our patented aluFer® heat exchanger and low emissions due to UltraClean® combustion.

The Hoval TopTronic control is exceptionally user-friendly. Innovative microprocessor technology ensures smooth and continuously monitored operation.

STU: British Innovation at its Best

The STU is a skid-mounted commercial wood pellet boiler, designed and manufactured in our UK factory.

The excellent combustion efficiency of this boiler ensures low emissions ratings. Combined with our tree-planting partnership with the Woodland Trust, you can be sure you are part of our sustainable chain.

The FlameTronix® intelligent touch screen control allows for versatile operation and simple maintenance.

UltraOil®

The UltraOil® condensing boiler featuring our patented aluFer® heat exchanger and two-stage burner delivers market-leading efficiency and cost-effective heating performance.

Our wide range of boilers will suit almost any customer's space heating requirements.

The UltraOil® offers numerous innovative construction details that make it the perfect choice for upgrades and new installations.

Domestic hot water

Hoval offers a wide variety of domestic hot water storage units ranging from 160 to 10,000 litres.

Our extensive product range can provide solutions to meet most building conditions producing hot water as economically and ecologically as possible.

Solar combinations

With the move towards renewable energy, an ever-evolving range of technologies is being integrated into building heating systems. Solar is a perfect solution to cover additional heating and hot water demands.

An expert partner

One-stop shopping

With us you can easily incorporate gas, oil, heat pump, solar, CHP, or biomass energy solutions into your heating system.

Technical advice

We are happy to assist you and your planning partners in developing intelligent systems, allowing you to take advantage of our expertise and the experience of our specialists.

After sales

For specialist commissioning and maintenance of your Hoval equipment, contact our service and spares department.

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February 2013

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