



DECARBONISING

with Hoval

Hoval

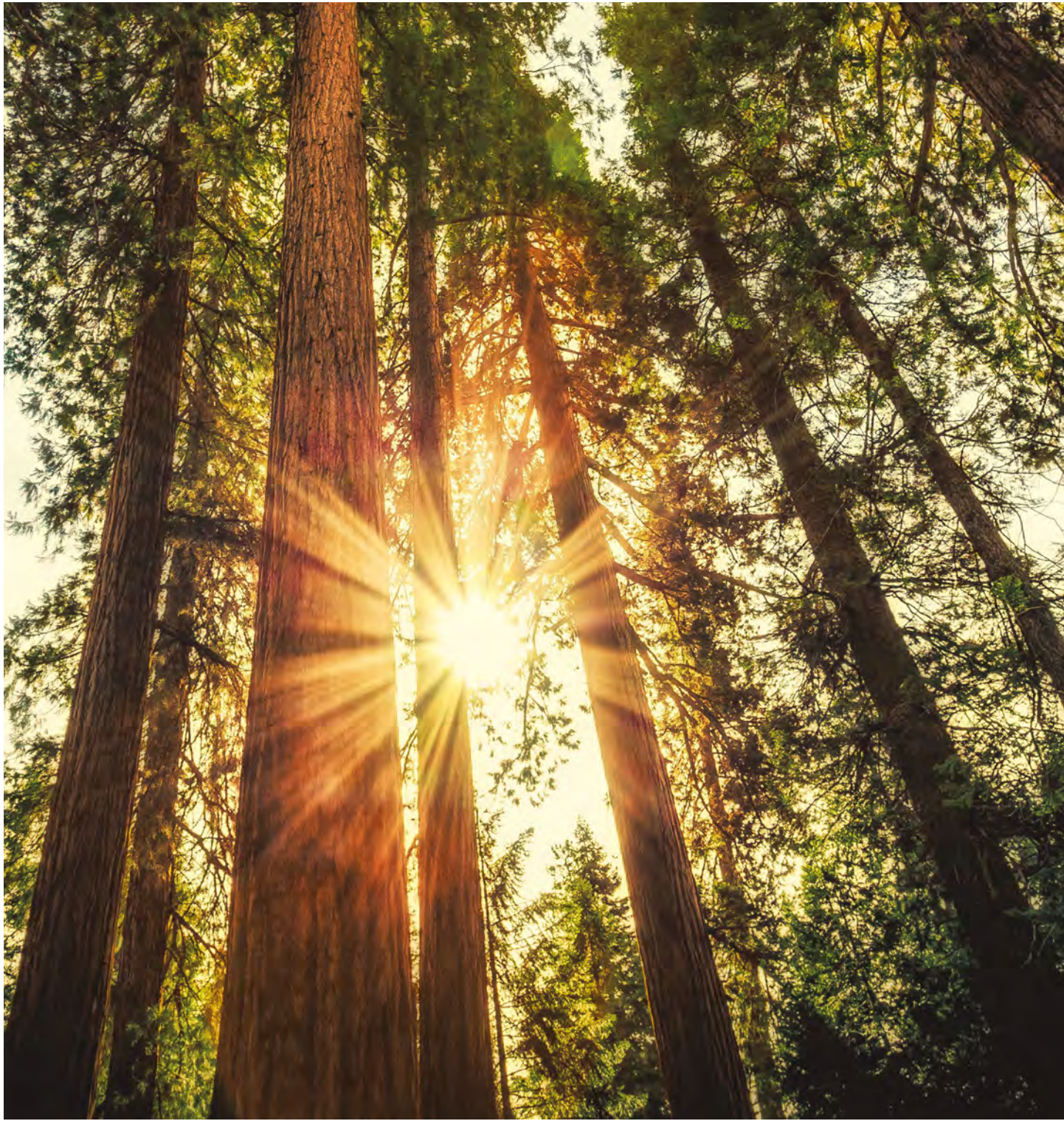
Introduction

As one of the UK’s leading manufacturers of heating and ventilation equipment, Hoval takes its responsibilities to the environment very seriously – and is also committed to helping customers fulfil their decarbonisation objectives.

Energy efficiency and alternative energy sources are at the centre of our corporate development, and our products are designed with complete awareness of our responsibilities to the climate, protecting the environment and sparing raw materials.

We recognise that the route to net zero carbon will follow several decarbonisation pathways, including enhanced energy efficiency and deployment of non-fossil fuels. This is where Hoval excels, with a broad portfolio of low and zero carbon products that go beyond meeting today’s requirements with future-proofing designs that enable customers to take advantage of new decarbonisation initiatives.

Hoval Ltd is certified to the international ISO 14001 standard, which confirms the effectiveness of our environmental management system and ensures the continuous application of our environmental policy.



Our products are designed with complete awareness of our responsibilities to the climate

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Air

Although air is not a fuel on its own, it has the ability to both store and release heat energy under certain conditions. It is because of this characteristic that air plays a key role in transporting energy and enabling exchange of heat energy within systems such as air source heat pumps and heat recovery ventilation systems.



Air

Freely available environmental energy, present in the air, can be used to deliver heating and hot water. Air source heat pumps, draw and pass air over a heat exchanger, where the air's ambient heat is transferred into the heat pumps refrigerant circuit.

The preheated refrigerant is then compressed, creating a higher heat differential temperature which can then be transferred into the buildings heating system.



Hoval Belaria® Range

Air-to-water heat pumps for high outputs.

Efficient | Modular | Sustainable

Belaria® fit (40-70)

The Belaria® fit is designed for systems with high outputs. It offers efficient heating, cooling and hot water production at the same time for a wide range of applications.

Featuring advanced modulating inverter technology, a hydrophilic coating on the evaporator fins, and R32 refrigerant, the Belaria® fit ensures optimal efficiency. Up to 16 units can be combined into a seamlessly controllable cascade system, or it can be integrated into a hybrid system for an alternative heating solution.

Belaria® fit WLP (44, 74)

The Belaria® fit WLP is an air-cooled reversible heat pump using R290 natural refrigerant for eco-friendly performance.

It offers heating, cooling, and high-temperature water production up to 75°C, making it ideal for various applications, including new installations and renovations. With high efficiency, low noise operation, and modular scalability, it ensures energy savings and adaptability. Safety features include double leak detectors and an ATEX extraction fan. It supports cascade connections of up to 16 units, making it suitable for larger setups.

Belaria® Pro (24)

The ground-breaking monoblock heat pump from Hoval, the Belaria® pro is designed for heating, cooling and generating hot water. Since it runs with a natural refrigerant, it meets the legislation of tomorrow - today, and the flow temperature of up to 70°C means it is ideal for renovation projects.

It has a range of applications, from dual occupancy homes to small commercial buildings, and it's quiet operation and modulation ensure comfort and efficiency.

- **70 degree flow**
- **R290 refrigerant**
- **Quiet operation**
- **Efficient**
- **Easy and versatile installation**

Efficient heating, cooling and hot water production



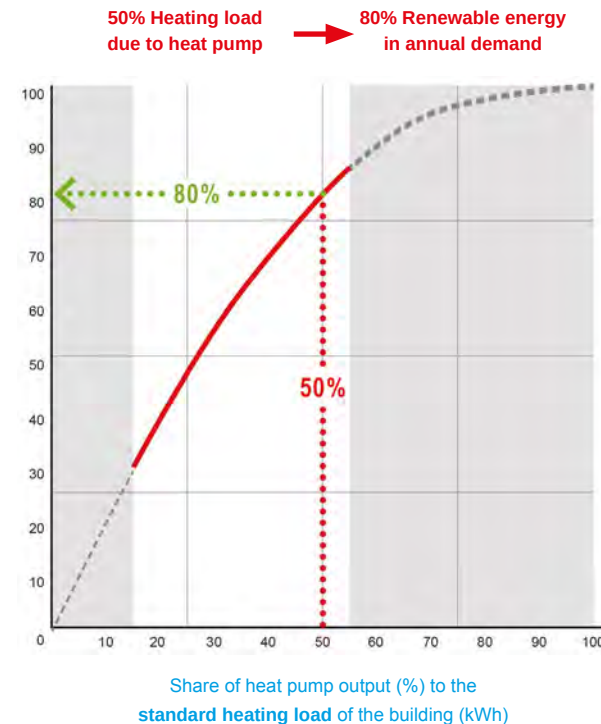


Hoval hybrid systems for high shares of renewable energy

With Belaria® fit, hybrid (bivalent) systems can be planned that meet the regulations with regard to the required proportion of renewable energy - and this also applies to renovations.

Although the heat pump is only dimensioned for half the heating load, it supplies 80% of the annual energy consumption. This helps to meet the targets and requirements of current Building Regulations.

Share of renewable energy in (%) of the annual demand (kWh) of the building.



Heating and climate technology for industrial, commercial and leisure applications

Heating | cooling | ventilation

With over 75 years' experience in indoor climate technology, Hoval continues to develop modern, decentralised heating, cooling and ventilation solutions.

Huge choice of units and specific designs for every application

With over 20 products in the indoor climate systems range, Hoval have the solution. Individual units are installed on the ceiling or in the roof, distributed throughout the interior. Supply and extract air ducts are not required and there are no contaminated, difficult-to-clean pipes. Duct-free ventilation is therefore able to ensure maximum hygiene and comfort.

Different types of units can be combined to create the perfect system for the project:

- RoofVent® supply and extract air handling units
- TopVent® supply air units
- TopVent® recirculation units

The number of supply and extract air handling units depends on how much fresh air is required in order to create a comfortable atmosphere for people in the building.



To request an ICS brochure email: solutions.uk@hoval.com

The future

The flexibility of our systems means they can easily be adapted to meet changing needs, giving excellent long-term results. From planning and operation right through to modernisation. We help our customers to benefit from energy efficient solutions and first-class air quality both today and tomorrow.

Fresh air at all times – a plus for the environment and your health



RoofVent® Supply and extract air handling units.

Ventilation, heating and cooling of high spaces with energy recovery. It doesn't get more efficient than this.

The units in the RoofVent® product range control the supply of fresh air and the removal of extract air through the roof while guaranteeing maximum energy efficiency. This economical and ecological indoor climate solution is perfect for use in combination with heat pumps.

- Huge flexibility and customised applications due to diverse product variants with optional equipment
- Heat recovery rate of up to 86% with the Hoval high-performance plate heat exchanger
- Suitable for combination with reversible heat pumps with a heating and cooling capacity of 30 kilowatts – can be expanded to 60 kilowatts
- Reduced investment costs, as an equipment room and water supply network are not required
- Easily extendable with additional units
- Connection point for the entire electrical system on the below-roof unit – the electrical supply for the roof unit is integrated and tested at the factory
- Hoval HK-Select planning tool with all technical data for the quick and easy design of the RoofVent® units
- Efficient air distribution with the integrated Air-Injector – reduced heat loss and no pressure drops in ducts



TopVent® Recirculation and supply air units.

Maximum flexibility for all types of halls and hall usages with its modular and scalable system building block design with controller TopTronic® C (heat generation, recirculation air heating and cooling and zone-based control).

- Cost-effective supplement to the RoofVent® supply and extract air handling systems if there is a temporary increase in demand for heat or cooling capacity
- Air duct-free systems for easy assembly and low energy consumption
- Different coil types and accessories for tailor-made solutions
- Air curtains of different sizes and designs to protect entrance areas against the cold
- Control of up to ten units with the EasyTronic EC controller
- All supply air units can easily be adapted for operation with recirculated or mixed air
- All supply air units are available in two sizes, each fitted with a continuously adjustable fan and heating/cooling coil in different output levels for tailor-made solutions
- Hoval HK-Select planning tool with all technical data for the quick and easy design of the TopVent® units
- Efficient air distribution with the integrated Air-Injector – reduced heat loss and no pressure drops in ducts

Technical
Data



	RoofVent® RP		RoofVent® RH		TopVent® TP		TopVent® CHC	
	Heating and cooling with decentralised heat pump		Heating with central heat generation		Heating and cooling with decentralised heat pump		Heating and cooling with central heat and cold generation in the 4-pipe system	
Ventilation	Fresh air supply Extract air removal Filters fresh air, recirculated air and extract air Air distribution with Air-Injector Recirculation operation		Fresh air supply Extract air removal Filters fresh air, recirculated air and extract air Air distribution with Air-Injector Recirculation operation		Recirculation operation Air distribution with Air-Injector Air filtration (option)		Recirculation operation Air distribution with Air-Injector Air filtration (option)	
Heating	With heat pump Supplementary heater with electric heating coil (option) Supplementary heater with hot water (option)		With connection to boiler system		With heat pump Supplementary heater with electric heating coil (option) Supplementary heater with hot water (option)		With connection to boiler system	
Cooling	Free cooling With heat pump		Free cooling		With heat pump		With connection to water chiller	
Technical data	RP-6	RP-9	RH-6	RH-9	TP-6	TP-9	CHC-6	CHC-9
Air flow rate m³/h	5500	8000	5500	8000	6000	9000	6000	9000
Heat output kW	up to 39	up to 53	up to 139	up to 139	up to 39	up to 50	up to 76	up to 118
Cooling capacity (total) kW	up to 30	up to 60	–	–	up to 28	up to 56	up to 44	up to 87
Operating distance m x m	22 x 22	28 x 28	22 x 22	28 x 28	23 x 23	30 x 30	23 x 23	31 x 31
Weight kg	889	1151	849	1104	237	281	684	898



Hydrogen

Replacing natural gas with hydrogen will be a key element in the UK's transition to net zero carbon, because when it burns it combines with oxygen to form water – rather than the harmful emissions associated with fossil fuels. Initially, hydrogen will be mixed with natural gas in gradually-increasing proportions and eventually could replace gas altogether.



Hydrogen

As the world looks for alternatives to burning fossil fuels, hydrogen has rapidly become an attractive option as there are no carbon emissions at point of use.

At Hoval, we believe this is the logical route to take for our boilers – ideally used alongside other low carbon technologies.



UltraGas® 2

UltraGas® 2 is Hoval's latest generation of gas condensing boilers for heating and hot water and is now able to operate with hydrogen and biomethane fuels, enabling users to 'future-proof'.

The original UltraGas® condensing boiler has been proving its excellence for over 20 years. Built to last, delivering the highest efficiency and offering cost effective performance.

- ⚡ Output ranging from 125kW to 1550kW, and 250kW to 3100kW as a double boiler
- 🔧 Compact transport and installation dimensions
- 🔄 Any flow/return temperature (Delta T)
- 🌡️ 95°C Maximum operating temp up to 95°C
- 🔥 Patented TurboFer® heat exchanger
- ✅ 10 year heat exchanger warranty

Features

UltraGas® 2 includes the latest TurboFer® heat exchanger, a patented core component of the boiler. The unique design increases heat transfer, boosts efficiency and guarantees optimum performance.

Burner output is modulated to heat demand, allowing the burner to run continuously in partial load operation and avoid inefficient stop/starts.

A precise flow temperature sensor improves the control response and ensures optimised operation.

The system provides separate high and low temperature returns, so that heating water is returned to the correct place in the boiler, producing optimum water-side temperature stratification.

These features in combination with other UltraGas® features - such as a large water capacity, the Ultraclean combustion system and the TopTronic® E system controller, enable the UltraGas 2 to deliver increased efficiency and energy savings of up to 20% compared to a conventional gas boiler.

Increased efficiency and energy savings of up to **20%** compared to a conventional gas boiler

Controls

Thanks to the standardised Hoval TopTronic® E controller, UltraGas® 2 boilers can be easily combined with any type of heat generator to create an integrated heating system where all the components work together to optimise efficiency.

TopTronic® E delivers a completely new level of simplicity, modularity, connectivity and user experience without compromising on control functionality. As such, it eliminates the inconvenience and risk of trying to work with different controllers for different appliances and system configurations.

Featuring ‘plug and play’ modular hardware, TopTronic® E allows easy extension of an existing system with additional Hoval components (e.g. an additional water heater). It can also operate alongside the new TopTronic® Supervisor within a fully scalable system for the real-time visualisation, monitoring and optimisation of district heating networks.

UltraGas® 2

Model range UltraGas®2	Nominal heat output at 50/30 °C, kW
(125)	25 - 126
(150)	35 - 151
(190)	38 - 191
(230)	51 - 233
(300)	58 - 299
(350)	70 - 352
(400)	69 - 399
(500)	77 - 491
(530)	110 - 533
(620)	136 - 622
(700)	146 - 703
(800)	166 - 804
(1000)	205 - 999
(1100)	229 - 1112
(1300)	269 - 1320
(1550)	324 - 1550
H (1100)	229 - 1112
H (1550)	324 - 1550

UltraGas® 2D*

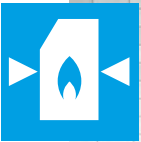
Model range UltraGas®2D	Nominal heat output at 50/30 °C, kW
D (250)	25 - 252
D (300)	35 - 302
D (380)	38 - 382
D (460)	51 - 466
D (600)	58 - 598
D (700)	70 - 704
D (800)	78 - 798
D (1000)	77 - 982
D (1060)	110 - 1066
D (1240)	136 - 1244
D (1400)	146 - 1406
D (1600)	166 - 1608
D (2000)	205 - 1998
D (2200)	229 - 2224
D (2600)	269 - 2640
D (3100)	324 - 3100
DH (2200)	229 - 2224
DH (3100)	324 - 3100

*Two sophisticated gas condensing boilers and one shared flue gas line for heating and generating hot water, available with output ratings from 250kW to 3100kW.

Compact design

UltraGas® 2 (125 – 500)

Width for bringing into position smaller than a standard door.
Including its pallet, the width needed to bring the UltraGas® 2 into position measures a maximum of 790 mm. This means that the boiler fits through any standard 800 mm doorway.



UltraGas® 2 (530 – 1550)

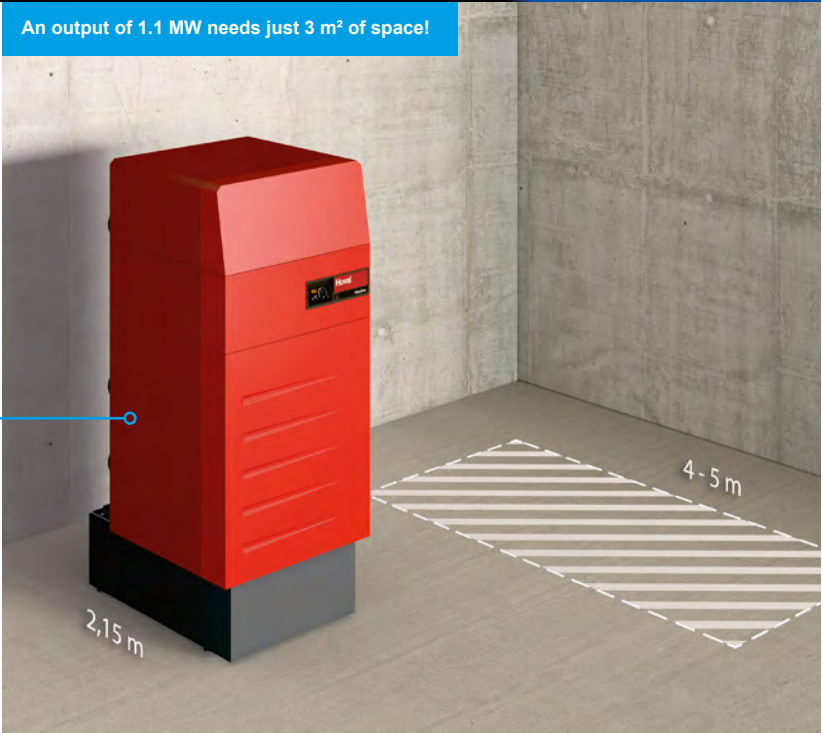
Minimum floor space, maximum output.
The construction of the UltraGas® 2 as a standing system with upright Hoval TurboFer® heat exchangers reduces the space required to a minimum. The boiler needs less than half the floor space required by common gas boiler units in this operating range.
Here’s one example of this little space-saving miracle.

(See overleaf for more details on Compact Dimensions)

Range of applications (for both renovations and new buildings):

- Blocks of flats
- Commercial
- Offices
- Industrial buildings
- Schools
- Sports facilities
- Hotels

An output of 1.1 MW needs just 3 m² of space!



Compact dimensions

With and without casing.

Type	Dimensions for bringing into position		Dimensions with covering		Dimensions for bringing into position		Dimensions with covering		Type
	View from front	View from left	View from front	View from left	View from front	View from left	View from front	View from left	
(125) (150)	 580	 880 1765	 720	 1182 1923	 1150	 1606 2120	 1290	 1822 2255	(800) (1000) (1100)
(190) (230)	 680	 980 1818	 820	 1256 1968	 1410	 1916 2255	 1560	 2200 2395	(1300) (1550)
(300) (350) (400) (500)	 790	 1330 1777	 930	 1632 1923	 1150	 1606 2120	 1290	 1822 2255	H (1100)
(530) (620) (700)	 970	 1420 2099	 1110	 1722 2234	 1410	 1916 2255	 1560	 2200 2395	H (1550)
All dimensions in mm									

UltraGas® 2 is characterised by unparalleled flexibility in terms of not only integration with other devices but also the ability to operate with a range of fuels. And, of course, high energy efficiency and low emissions are standard.



LPG/bioLPG

Liquefied petroleum gas (LPG) is widely used as a heating fuel in buildings that are off the mains gas grid. Traditionally it is produced as a by-product of refining crude oil and natural gas. Biopropane (bioLPG) has the same chemical properties but is derived from a range of waste biological materials such as plant material, vegetable oil and animal fats.



LPG/ bioLPG

LPG (liquefied petroleum gas) - made up of hydrocarbons butane and propane converted to liquid form, LPG can be stored and transported safely.

The future...

BioLPG – can be ‘dropped-in’ to the existing comprehensive LPG network – making it the most feasible, low carbon option that results in near zero disruption to the end-user.



UltraGas® 2

The innovative UltraGas® 2 as detailed in the hydrogen section, is a great investment for off-grid sites. The Hoval UltraGas® series has been a success story for over 20 years, with owners all over the world appreciating its durability. The secret to its long life can be found in the high-quality stainless steel used on the water side.

The UltraGas® 2 handles even large differences between the flow and return temperatures with no problem at all.

Hoval provides an extended 10-year warranty for the boiler body, giving owners the confidence to make a long-term investment in a future-ready reliable design.

For outputs and dimensions see pages 8 - 11.

BioLPG is:



Easy to use

Chemically identical to standard LPG and can be blended up to 100%



Cleaner

BioLPG is low carbon and performs extremely well from an air quality perspective on NO_x, SO_x and PM



Renewable

Made from completely renewable crops and waste feed stocks

The LPG industry aims to transition to
100%
biopropane
by 2040



Hoval PowerBloc FG (12 – 20)

CHP (combined heat and power) units generate both electricity and heat from a single source of energy. Cogeneration can play a useful role in saving energy. Making better use of resources means significantly reducing pollutants and carbon emissions.

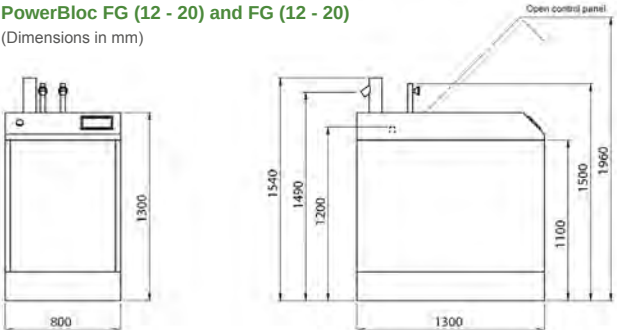
Advance your environmental goals with a Hoval PowerBloc FG unit and generate heat and electricity from liquefied petroleum gas using condensing boiler technology.

Quick installation

The PowerBloc contains all assemblies for electricity and heat. Set up, connect, turn on!

Power: electric 5-20 kW, thermal 18-43 kW.

PowerBloc FG (12 - 20) and FG (12 - 20)
(Dimensions in mm)



Type		(12)	(15)	(20)	(20) for cascades
Energy efficiency class space heating (A+++ to D)		A++	A++	A++	A++
Electrical power	kW	5-12	5-15	5-20	5-20
Electrical efficiency at 12 kW electrical power	%	30			
Electrical efficiency at 15 kW electrical power	%		32		
Electrical efficiency at 20 kW electrical power	%			33.3	33.3
Thermal efficiency at 35°C return temperature	%	72	70	70	70
Thermal power modulating at 35°C return temperature	kW	18-30	18-34	18-42	18-42
Overall efficiency at 35°C return temperature	%	102	102	103.3	103.3

Range of applications:

- Blocks of flats
- Hotels
- Restaurants
- Schools
- Swimming pools
- Health centres
- Industry and more – for new buildings and renovations



TopGas Classic (35 – 720)

Wall mounted condensing boiler for heating and generating hot water. Efficient and therefore economical in the smallest of spaces. The heating energy is used 15% more efficiently than with a low-temperature boiler of the latest generation.

Due to their compact dimensions with shallow depth, the TopGas boilers require particularly little space. Whether in the basement, attic, or boiler room, the TopGas can be easily mounted on the wall and save valuable floor space.

Able to fit through every door and staircase, therefore particularly practical for renovation. Installation is also simple: TopGas condensing boilers are delivered fully equipped and can be installed quickly thanks to the colour-coded plug-in system.

Available as an individual boiler 35-120kW, in back to back or in-line cascade arrangements from 60 to 720kW

- ⚡ Infinitely variable power adjustment
- 🔄 Space-saving due to compact dimensions
- £ Lower operating costs through high efficiency
- 🌿 Low weight and compact design

Range of applications:

- Multi-family homes
- Commercial



Hydrotreated Vegetable Oil (HVO)

HVO is derived from used cooking oils and waste fats and is a promising replacement for kerosene and gas oil that are currently used in oil-fired heating systems. Recent research has shown HVO to be a direct drop-in for gas oil in larger heating appliances and a near drop-in for kerosene in residential installations.



HVO

HVO is a paraffinic fuel, perfectly suited to a wide range of industries as an alternative to fossil fuels.

Hydrotreated vegetable oil (sometimes called hydrogenated vegetable oil or HVO) is a low carbon liquid fuel. Industry is looking to introduce this new renewable fuel which could make a significant contribution to carbon reduction. HVO is a very cost-effective alternative to other low carbon fuels.



UltraOil® Condensing Boiler

Proven technology with a modern touch.

Proven

Hoval’s products are continually developed. The Hoval UltraOil® makes use of this already proven technology, but with the latest condensing features and a sophisticated design, extracting maximum energy from the fuel.

Maximum efficiency

The aluFer® heat exchanger made from a combination of aluminium (on the inside) and stainless steel (on the outside) provides maximum conductivity. Due to its vertical installation in the boiler, the temperature stratification of the heating water is supported, contributing to an additional increase in efficiency. This results in the fuel being used up to 10% more efficiently than a low-temperature boiler.

Space saving design

The vertical heat exchanger installation makes this boiler particularly compact, saving up to 30% more space during installation and making transportation easy.

		16	20	25	35	50	65	80	110	130	160	200	250	300	320D	400D	500D	600D	
Heat output range at 40/30 °C *	kW	12/16	14/20	16/25	22/35	30/50	41/65	52/80	83/110	104/130	119/160	155/200	189/250	227/300	119/320	155/400	189/500	227/600	
Heat output range at 80/60 °C *	kW	11/15	14/19	15/24	21/33	28/48	38/62	48/77	78/105	99/124	114/152	147/190	180/238	215/286	114/304	147/380	180/476	215/568	
Minimum boiler operating temperature	°C	No lower limit					No lower limit					No lower limit							
30% partial load efficiency (according to EN 303) **	%	103.9/98.0	104.2/98.3	104.1/98.2	104.2/98.3	104.7/98.8	104.5/98.6	104.2/98.3	105.0/99.1	104.8/98.9	104.5/98.6	104.0/98.1	104.9/99.0	104.6/98.7	104.5/98.6	104.0/98.1	104.9/99.0	104.6/98.7	
Boiler water content	Litre	66	63	68	65	115	135	340		360		295		680		720	590		
Weight (incl. casing and burner)	kg	140	145	157	164	276	360	420		450		634		840		900	1268		
Transport weight	kg	134	139	151	158	261	317	370		390		534		740		780	1068		
Dimensions W/H/D	mm	520/1550/820		520/1690/820		675/1715/990		820/1948/1367		1050/1492/2353		1050/1492/2545		1105/1602/2841		2205/1955/2709	2205/1955/2901	2260/2063/3284	

* 1st stage / 2nd stage ** Based on calorific value Subject to change



Responsibility
for energy and
environment



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

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