

Exclusive Boiler Green he

High Efficiency Condensing Wall-Hung Boilers, with tank

Residential Heating

EFFICIENCY ★★★★★
according to European Directive EEC 92/42



EXCLUSIVE
BOILER GREEN



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Energy efficiency at its best

EXCLUSIVE BOILER GREEN HE is **Beretta top of the range condensing appliance with tank**. The following features make it one of **the most energy efficient boilers available on the market**.

CONDENSING HEAT-EXCHANGER

Designed to provide high performance in compliance with the most strictest European directives in terms of energy efficiency and low emissions.

1:10 MODULATION RATIO

The highest range of modulation, to match the real energetic needs, achieving in this way a significant further saving in the gas consumption.

LOW ENERGY MODULATING PUMP

Reduction of the electrical consumption up to 60%, thanks also to the proportional self-adjustment to the instantaneous power or to the flow/return operation with constant ΔT .

HIGHEST DHW COMFORT

Technological innovation combined with advanced electronics allow to reach the **★★★** in DHW comfort, the best class according to the European Directive EN 13203. The built-in stainless steel DHW tank of 60 litres can supply 202 litres DHW in only 10 minutes.

FURTHER ADVANTAGES OF EXCLUSIVE RANGE

EXCLUSIVE BOILER GREEN HE enriches the wide offer of Beretta condensing boilers featuring all the advantages of the Exclusive range: "The condensing boiler at its best".

RANGE RATED

EXCLUSIVE GREEN HE IS CERTIFIED AT DIFFERENT LEVELS OF HEAT INPUT TO ALLOW THE ADJUSTMENT OF THE BOILER TO THE REAL THERMAL NEEDS OF THE CENTRAL HEATING.





Condensing heat-exchanger



1:10 Modulation ratio



Range Rated



Low Energy
modulating pump (A-Class)



Built-in DHW tank in stainless
steel, with 60 litres capacity

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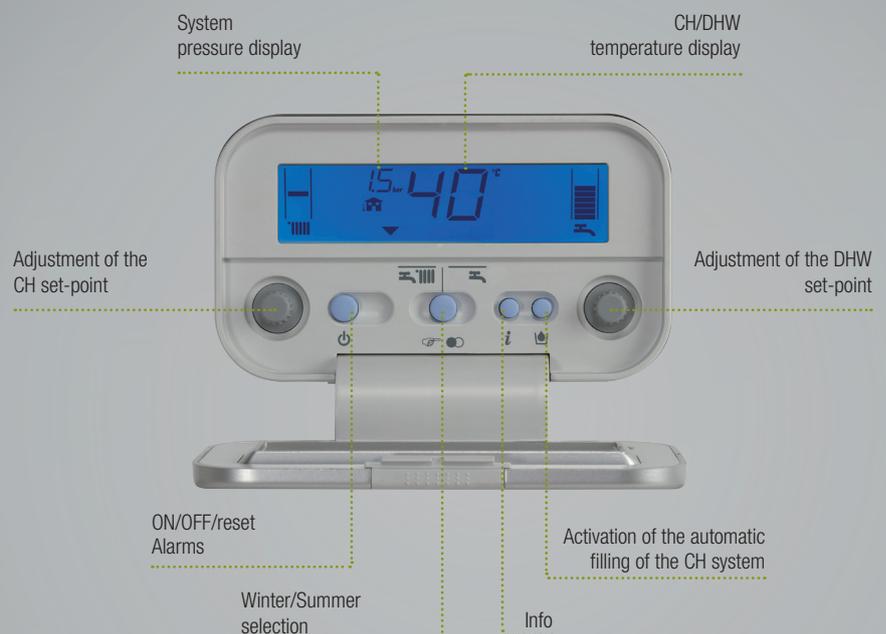


- EXCLUSIVE BOILER GREEN HE is **Beretta top of the range condensing appliance** and is amongst the most energy efficient boilers available on the market.
- **Built-in stainless steel tank of 60 litres** with magnesium anode.
- It reduces the running costs up to 35% compared to a conventional boiler thanks to its highly technological solutions, that allow to reach **★★★★ efficiency**, the highest according to European Directive EEC 92/42.
- **★★★★ DHW performance** according to EN 13203.
- **Low NOx emissions: Class 5** (the best according to European Directive UNI EN 483).
- **Aluminium heat-exchanger** (Patent pending) that allows to get the most from the combustion of the gas, whether NG or LPG.
- **1:10 modulation ratio**: to maximize the seasonal efficiency and the domestic hot water comfort, allowing further savings.
- The **RANGE RATED certification** allows to adapt the power of the boiler to the real thermal requests of the installation.
- **A-Class Low Energy modulating pump** $E_{EEI} < 0.23$, PWM controlled (6 metres) with different working options.
- Lowest electrical consumption (only 66 Watt on 25 BSI).
- “Survivor” function in DHW mode, allowing the boiler, in the event of failure of the DHW NTC probe, to continue to operate.
- Built-in climatic thermoregulation that can be activated through the external probe (supplied as standard) for a high comfort level inside the house.
- S.A.R.A. system: automatic temperature control in heating mode.
- Electrical protection IPX5D.
- EXCLUSIVE BOILER GREEN HE can be converted to LPG through specific LPG kit (supplied as standard).
- Hydraulic connections, gas and DHW taps supplied as standard.
- Lower connections cover supplied as option to ensure a tidy installation.
- Built-in DHW expansion vessel.

Smart control panel

EXCLUSIVE BOILER GREEN HE features a smart control panel located under a silver flap, from which a wide LCD display appears. By simply rotating two knobs, it is possible to set CH and DHW temperature. The choice of the season, the automatic filling of the system, the thermoregulation function with external probe can be easily activated by pressing the relevant buttons.

By combining user-friendliness and multifunctionality. EXCLUSIVE BOILER GREEN HE control panel provides complete peace of mind to installer and end-user.

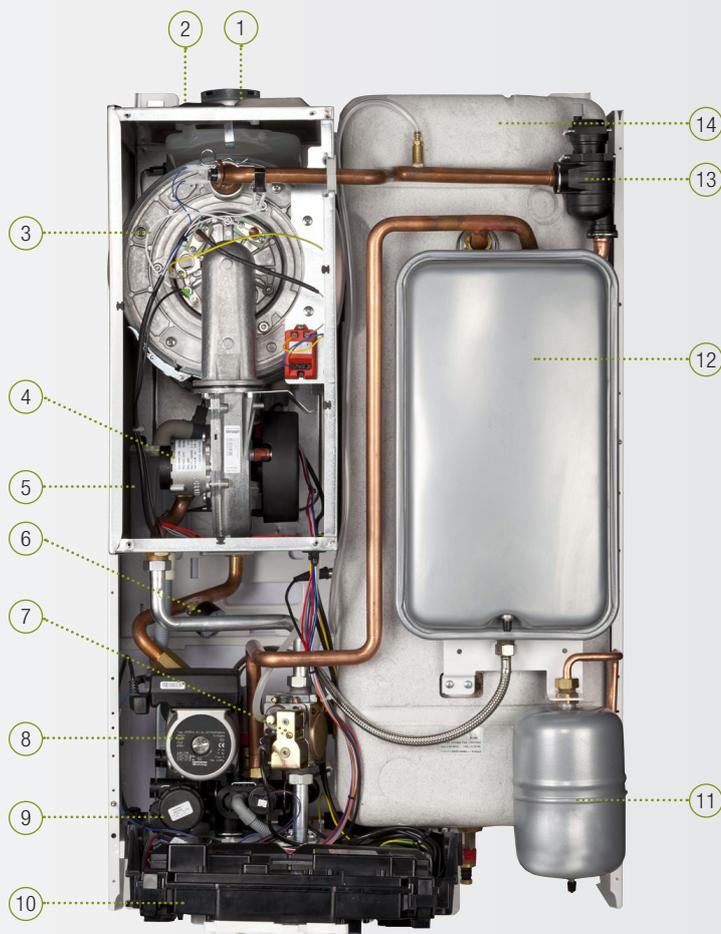


A cascade of hot water

EXCLUSIVE BOILER GREEN HE can immediately supply up to 202 litres DHW in 10 minutes (with $\Delta T = 30^{\circ}\text{C}$), thanks to the built-in stainless steel tank, with 60 litres capacity. The DHW tank is equipped with a magnesium anode to offer protection

against stray currents and, thanks to the wide flange, the tank can be easily inspected. In order to save gas consumption, a highly protective insulation of the tank prevents water cooling, while minimizing the

burner ignitions (to recover the DHW tank temperature). EXCLUSIVE BOILER GREEN HE features also the DHW expansion vessel and is suitable for DHW recirculation (through optional kit).



- ① Air inlet for twin system
- ② Flue gas analysis
- ③ Condensing heat-exchanger
- ④ New mixer (modulation 1:10)
- ⑤ Condensate drain trap
- ⑥ Pressure gauge
- ⑦ Gas valve
- ⑧ Circulation pump with anti-blocking function
- ⑨ 3-ways valve with anti-blocking function
- ⑩ Climatic thermoregulation (outdoor probe as standard)
- ⑪ DHW expansion vessel (2 litres)
- ⑫ Heating expansion vessel (10 litres)
- ⑬ Automatic air vent valve with "cyclonic effect"
- ⑭ Built-in stainless steel DHW tank, 60 litres

Condensing heat-exchanger

The innovative condensing heat exchanger, manufactured in a single aluminium pipe without weldings, and the production process allowed Beretta to present the request for the European Patent (Patent Pending).

The high thermal conductivity of the aluminium allows a more uniform temperature distribution so that no hot spots are present: this translates in a longer life span of the exchanger.

Moreover, the aluminium is very resistant against the corrosion. The single-pipe layout (in-series circuit) offers a wide section for the water passage, with the consequent advantage of very low head losses while preventing the deposit both of limescale and impurities. The condensing heat-exchanger allows to recover a large part of the latent heat of the gas flues, reducing in this way much of the heat losses. Thanks to this feature,

EXCLUSIVE BOILER GREEN HE reaches ★★★★★ efficiency, (according to the European Directive EEC 92/42), higher than $93+2 \log P_n$.

The premix burner optimizes the combustion mixture while reducing NO_x emissions down to values that place the boiler performance in Class 5 (the best one in ecological terms) according to the European Directive EN 483.

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1:10 modulation ratio, technology at its best

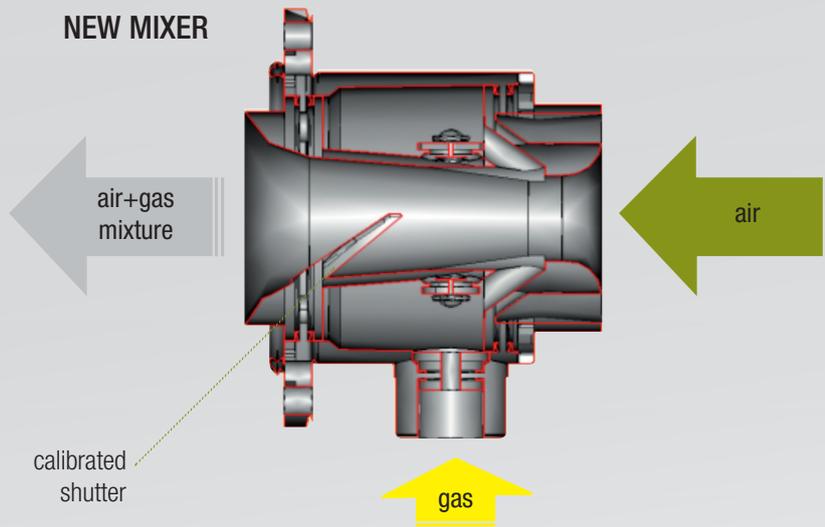
EXCLUSIVE BOILER GREEN HE offers an extremely wide modulation range on every model, to match the real energetic needs of the installation at any time, achieving in this way a significant further saving in the gas consumption. For instance, on the 25kW models, EXCLUSIVE BOILER GREEN HE offers 2,5kW as minimum output, allowing a further reduction on consumptions of 8%, if compared with another condensing boiler without 1:10 modulation ratio. Beretta features a system that is fully pneumatic, without the addition of further electronic boards, hence safe and reliable.

The main electronic board sets only the number of revolutions of the fan (air inlet) and does not intervene on the gas injection, that is instead automatically taken in. Thus, Beretta introduces a double-step mixer: a mechanical shutter, whose weight has been attentively sized, opens or closes a section of the Venturi pipe so to divide the modulation range in two sections (smaller section with low air flow, or larger section with higher air flow). Beretta has moreover developed a specific silencer (on the air intake) to abate any possible resonances that may occur.



Range rated

The term "Range Rated" identifies a product certified at different levels of heat input and provided with a special feature allowing to precisely adapt the maximum power of the boiler to the thermal needs of the central heating system. With EXCLUSIVE BOILER GREEN HE Beretta offers the possibility to set the power of your boiler according to the real energy requests of the building through a simple operation during the installation. The fan revolutions number (r.p.m.) will only have to be adjusted and the new set power will be written on a label on the boiler. Thanks to the "Range Rated" certification, EXCLUSIVE BOILER GREEN HE operation can be optimized, avoiding any gas waste and reducing wear and tear on boiler components.



The new Low Energy modulating pump

EXCLUSIVE BOILER GREEN HE features a **new Low Energy modulating pump**, which is already ErP ready, by complying with the ErP Directive which will get into force in the European Union in September 2015. Thanks to the new technology, the electric motor of the pump offers an **Energy Efficiency Index $E_{EI} < 0,23$** , meaning **dramatically reduced electrical consumption, already aligned with the ErP energy saving requirements.** The new Low Energy modulating pump

(A-Class) offers a best-in-class electronic control and allows to slash down the electrical consumption of the boiler, thanks to the modulation in a wide range of flow rates.

The new circulator fits perfectly in every Central Heating system, through different operating modes, including:

- flow/return with constant ΔT ;
- proportional self-adjustment to the instantaneous power;
- constant speed.



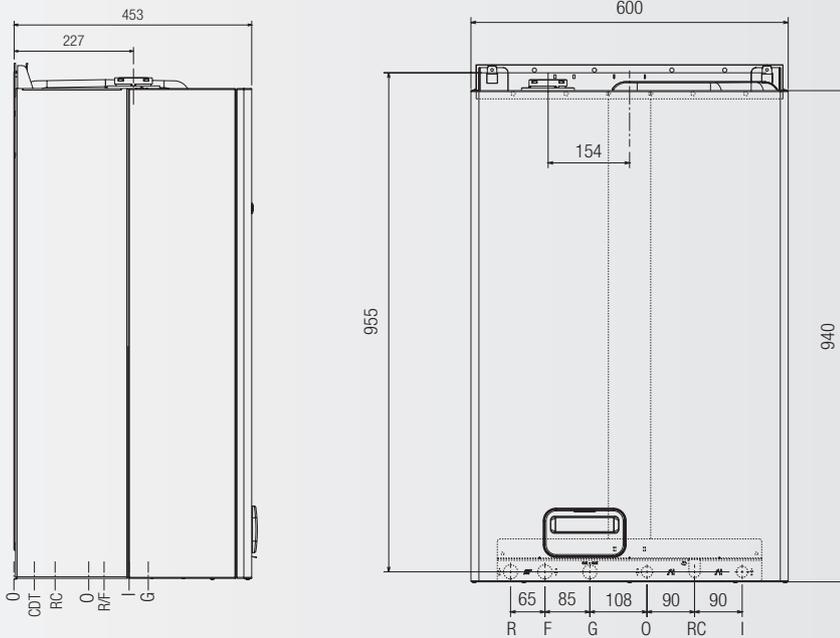
Technical drawings

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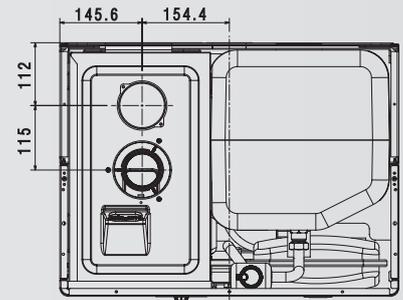
System: Return R/Flow F/Gas G

Domestic water: Inlet I/Outlet O/Recirculation RC

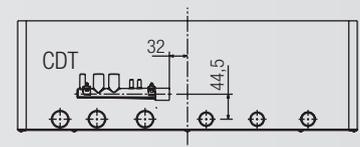
CDT: condensate drain trap



View from above

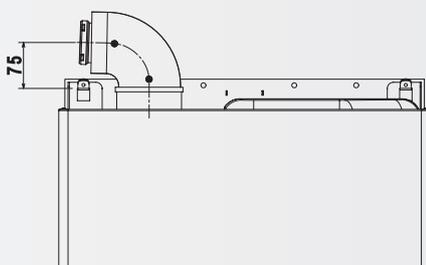


Condensate drain trap

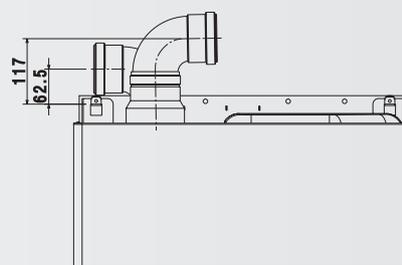


CDT	39
RC	78,5
O	142,5
R/F	171,75
I	219,5
G	256,25

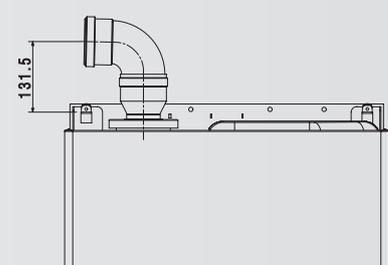
CONCENTRIC OUTLETS



TWIN OUTLETS



“FORCED OPEN” INSTALLATION (TYPE B23)



For all flueing configurations please refer to the current local and national rules.

Technical data

B built-in DHW tank

S room-sealed

I ionisation flame control.

SPECIFICATIONS AND MODELS

		EXCLUSIVE BOILER GREEN HE 25 B.S.I. (G20/G31)	EXCLUSIVE BOILER GREEN HE 35 B.S.I. (G20/G31)
CH nominal heat input	kW	25,00	34,60
CH nominal heat output (80°-60° C)	kW	24,38	33,74
CH nominal heat output (50°-30° C)	kW	26,20	36,50
CH minimum heat input	kW	2,50/4,50	3,50/6,20
CH minimum heat output (80°-60° C)	kW	2,49/4,47	3,41/6,04
CH minimum heat output (50°-30° C)	kW	2,69/4,82	3,71/6,57
Nominal Range Rated heat output (Qn)	kW	25,00	34,60
Minimum Range Rated heat output (Qm)	kW	2,50/4,50	3,50/6,20
DHW nominal input	kW	25,00	34,60
DHW maximum output*	kW	25,00	34,60
DHW minimum input	kW	2,50/4,50	3,50/6,20
DHW minimum output*	kW	2,50/4,50	3,50/6,20
Efficiency class according European Directive EEC 92/42		★★★★	★★★★
Efficiency at max nominal output (80°-60° C)	%	97,5	97,5
Efficiency at min output (80°-60° C)	%	99,7/99,4	97,3/97,4
Efficiency at partial load 30% (47°C return)	%	102,8	103,1
Efficiency at max nominal output (50°-30° C)	%	104,8	105,5
Efficiency at min output (50°-30° C)	%	107,4/107,1	105,9/105,9
Efficiency at partial load 30% (30°C return)	%	109,4	108,0
NOx class		5	5
Max power consumption	W	66	116
Power supply	V/Hz	230/50	230/50
Electrical protection	IP	X5D	X5D

CENTRAL HEATING

Maximum pressure - temperature	bar - °C	3 - 90	3 - 90
Minimum pressure for standard operation	bar	0,25 ÷ 0,45	0,25 ÷ 0,45
Adjustable CH water temperature range	°C	20 ÷ 80	20 ÷ 80
CH expansion vessel pre-charge/Capacity	bar/l	1/10	1/10

DHW

Maximum pressure	bar	8	8
DHW production $\Delta T=25^{\circ}\text{C}$	l/min	14,3	19,8
Adjustable hot water temperature range	°C	35 - 60	35 - 60

BUILT-IN TANK SPECIFICATIONS

Type		stainless steel (LDX 2101)	stainless steel (LDX 2101)
DHW capacity	l	60	60
DHW quantity drawn in 10' with $\Delta T=30^{\circ}\text{C}$	l	202	202
Water tank maximum pressure	bar	8	8

CONNECTIONS

CH flow - return/Gas	Ø	3/4"	3/4"
DHW inlet - outlet	Ø	1/2"	1/2"

FLUE PIPES AND AIR INTAKE

Max length (including 90° bend) for concentric 60-100mm	m	7,85	7,85
Max length (including 90° bend) for concentric 80-125mm	m	14,85	14,85
Max length for twin 80+80mm	m	32+32	40+40

DIMENSIONS, WEIGH, GAS

Boiler dimensions (HxWxD) - Net weight	mm - kg	940x600x450 - 65	940x600x450 - 72
Certified gas types		II2H3P/II2E3P	II2H3P
Available gas versions		NG, LPG**	NG, LPG**

* average among the different functioning conditions in DHW

** LPG version available with separate conversion kit (as standard)

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