

# Ferrolli



**H<sub>2</sub>**  
HYDROGEN  
PLUG-IN

**A+**



## Bluehelix Maxima

Wall hung condensing boilers with instantaneous domestic hot water production



# BLUEHELIX MAXIMA

## Maximum expression of functionality



The **BLUEHELIX MAXIMA exclusive lines** radically remodel the aesthetic concept offered so far by using crystal and by the revolutionary use of curved shapes.

A **multicolour LED environment**, set in the centre, allows you to perceive the status and operating modes of the boiler, also on a visual chromatic level.

The large **7" colour full touch screen display** incorporated in the front surface of the black tempered glass provides the user with total remote interaction with the product. The product is also **supplied** with a **CONNECT** remote control that is managed from an iOS and Android App.

Designed to meet the "robust" product requests in every aspect: **primary high-pass heat exchanger, secondary DHW heat exchanger enhanced with 20 plates, high head circulator, new electronic control.**

All these elements are designed in order to also guarantee maximum long-term efficiency and reliability, and not only, replacing old generators in particularly dirty systems: **ideal for "hassle-free" replacement.**

## THE RANGE

models operating with natural gas, LPG and propane air

### mod. 28 C

COMBINED (16.1 l/min at  $\Delta t$  25°C)

### mod. 34 C

COMBINED (19.5 l/min at  $\Delta t$  25°C)

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## MAXIMUM SILENT OPERATION: ONLY 45 dB\*

The detailed design of **BLUEHELIX MAXIMA** has made it possible to achieve **significant values in terms of silence and acoustic comfort**, thereby making it almost difficult to distinguish the background noise of a home from the noise produced by the boiler during normal operation.

The **on/off transistors** of the boiler have also been **optimised according to acoustic comfort** so that the user will no longer have to worry about understanding whether the boiler is on or off by its noise as in old-generation boilers.

(\*) model 28 kW



# MAXIMA AESTHETICS

Exclusive design (Patented)



# MAXIMA INNOVATION

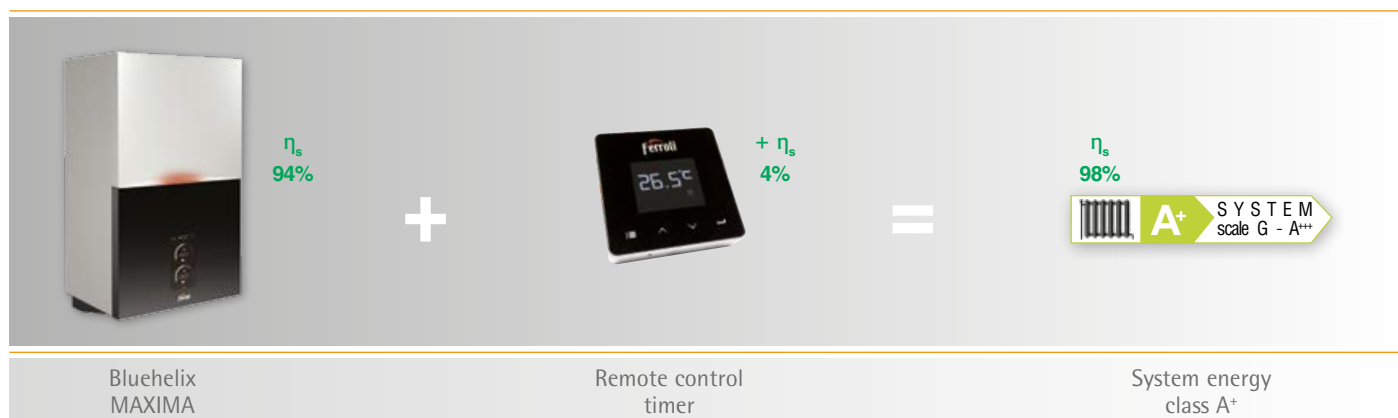


Developing **sustainable and low environmental impact solutions** that counteract global warming has now become a reality! BLUEHELIX MAXIMA is already able to adjust itself autonomously (plug-in) and function correctly in total safety with mixtures of natural gas enriched with hydrogen already provided for distribution in Europe (\*)

(\*) mixtures of Natural Gas/Hydrogen 80%/20%

# MAXIMUM EFFICIENCY

BLUEHELIX MAXIMA is not only aesthetically appealing but also reaches **room heating energy efficiency** values among the highest in the boiler category:  $\eta_s$  **94%**, and with the Wi-Fi CONNECT remote control timer, it reaches an **A+** system energy class (scale from G to A+++).





# BOILER CONTROL

## Control board and functions

The innovative **BLUEHELIX MAXIMA** control and management electronics are at the top of the category.

The **large 7" colour full touch screen graphic display** enables real-time display of the operation information thanks to the **simple and intuitive graphic display**.

By simply touching the display, it is possible to set the heating and DHW temperature set points.

Thanks to the contextual guide, **BLUEHELIX MAXIMA** informs the user directly of the possible causes of malfunction and, at the same time, provides the technician with indications on possible solutions to solve the problem.

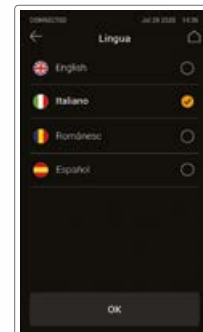
The system pressure is also no longer a problem since, thanks to the **electro-charging function** semi-automatic system, a simple "touch" is all it takes for the boiler to automatically restore the appropriate pressure without requiring manual intervention by the user.



DHW temperature settings



Select language



Heating temperature settings



Unblock anomalies



screen example

Semi-automatic system pressure reset



Initial testing





# CONNECT

## Remote control

- Remote control (standard supply) to **manage comfort in the home also from Smartphone**
- **Connection to the home Wi-Fi network** for internet access through the supplied RF/WiFi receiver
- CONNECT APP available for switching the boiler on and off and **managing home comfort** for heating/DHW via remote control from Smartphone (iOS and Android)
- **Maximisation of ambient comfort** with modulating regulation of the flow temperature through the **Ambient Climatic Compensation (ACC)** and **Outdoor Climatic Compensation (OCC)** through **outdoor temperature detected directly from the Internet** (or from an optional outdoor probe)
- **Improves ambient heating medium seasonal efficiency by +4%**
- **Weekly hourly programming in 30-minute intervals** via APP CONNECT
- **Alarm display** also through CONNECT APP
- **Operating mode:** Off, Holiday, Automatic, Manual
- **Three modifiable temperature levels:** Comfort, Economy, Antifrost



Control

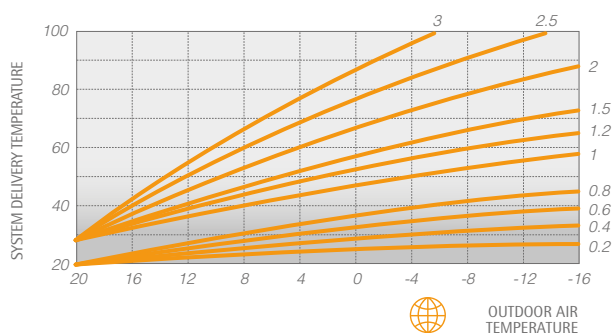


RF/Wi-Fi receiver



## CLIMATIC COMPENSATION

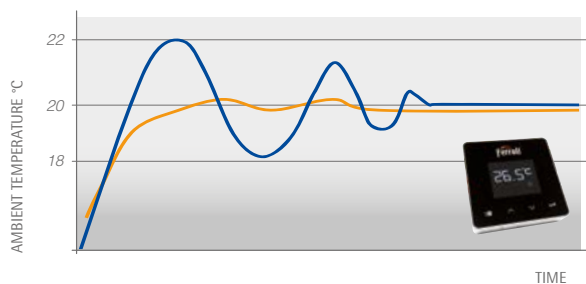
OCC



WEB | OUTDOOR AIR CLIMATIC COMPENSATION

By reading the outdoor temperature directly from the Internet (or from the optional outdoor probe), the system can change the temperature based on the outdoor temperature **measured according to the climatic curves set, thus ensuring maximum user ambient comfort as the outdoor climate conditions change.**

ACC



AMBIENT CLIMATIC COMPENSATION

The modulating function of CONNECT allows the boiler's **power to be modulated** as the **value of the set room temperature** is reached. This improves the quality of comfort by eliminating heat peaks with consequent energy savings.

WITH CONNECT REMOTE CONTROL TIMER

WITH NON-MODULATING AMBIENT THERMOSTAT



# MAXIMA ACCESSORIES AVAILABLE

## Hydraulic accessories - flue gas

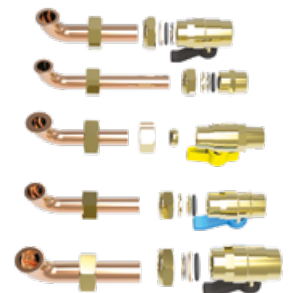
The careful design of aesthetics of **BLUEHELIX MAXIMA** has no limits.

The boiler has a series of accessories that not only make installation functional but also appealing in terms of aesthetic appearance.

A **black moulded cover is available** to cover the hydraulic connections and the **relative 5-pipe kit complete with four valves**.



FITTING COVER KIT



HYDRAULIC KIT

Lastly, for the most demanding and design-conscious customers, in addition to the traditional white series, a **full range of black flue gas accessories is available**.



### COAXIAL FLUE GAS ACCESSORIES 60/100



### SEPARATE FLUE GAS ACCESSORIES 80/80



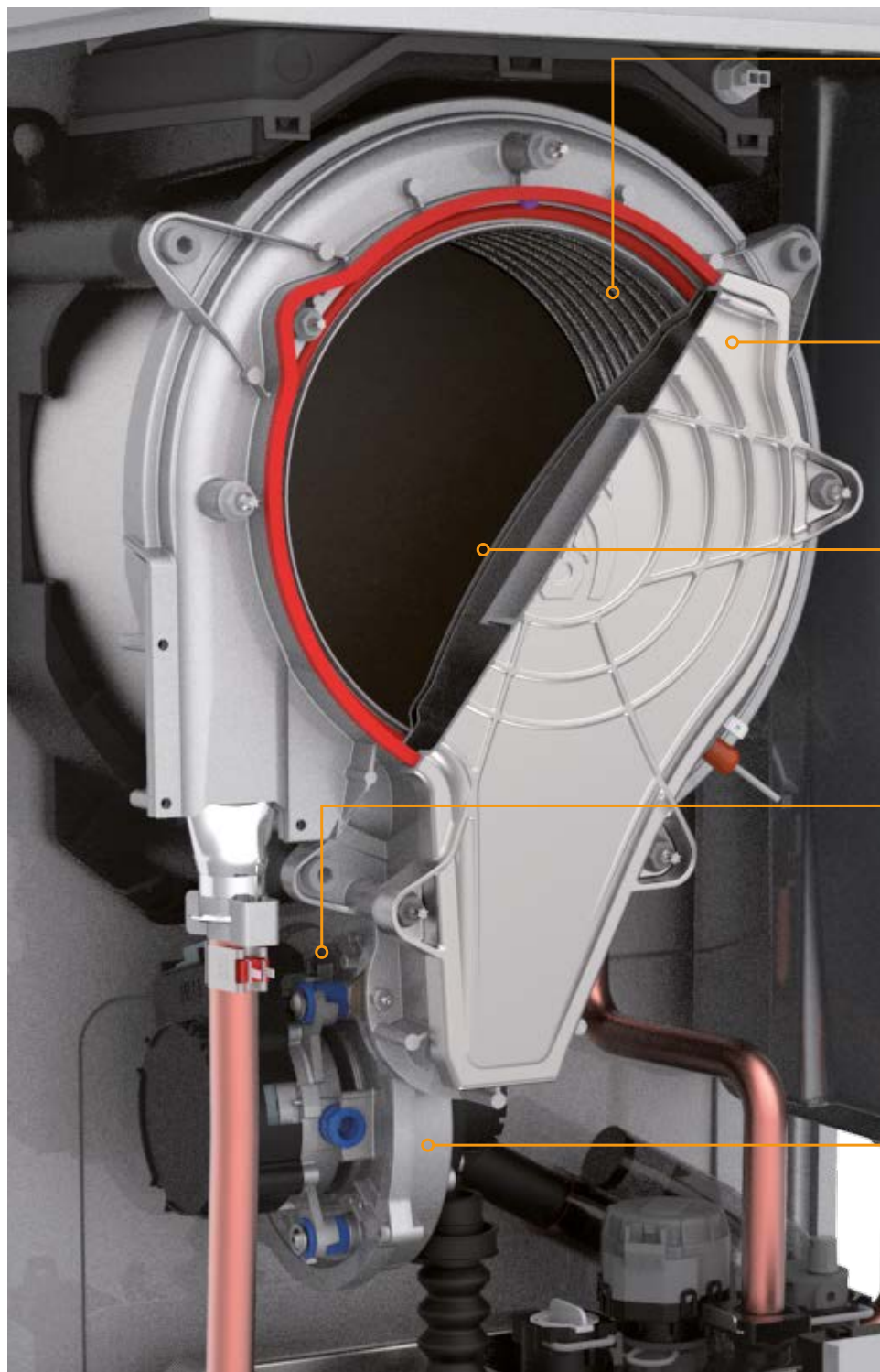


# VIEW INSIDE BLUEHELIX MAXIMA

## FERROLI THERMOBALANCE™ THERMAL UNIT IN ITS 5 ELEMENTS



The **BLUEHELIX MAXIMA** combustion chamber and heat exchanger maximise the functional benefits and construction sturdiness. The single circuit design ensures that any system air bubbles do not remain trapped in the heat exchanger and facilitates chemical washing as much as possible.



### EXCHANGER **1**

Stainless **steel high-pass single-circuit**, exchanger, clog-resistant and easy to clean

### BURNER HOLDER **2**

**Self-cooling** burner holder without insulating panel

### BURNER **3**

Exclusive **special stainless steel semi-spherical burner** with **long-life gasket**

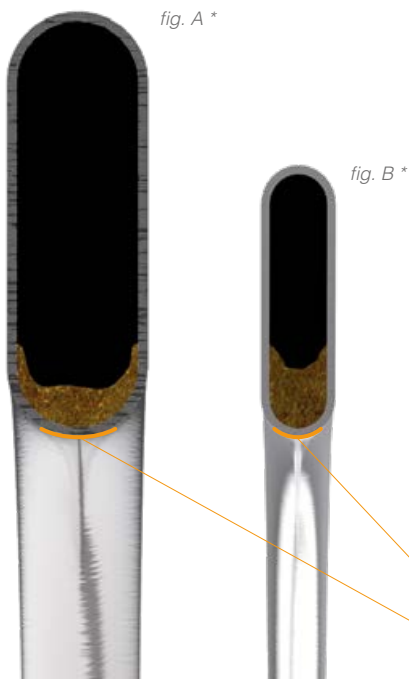
### GAS ADAPTIVE **4**

Intelligent **“Gas-adaptive”** system derived from industrial boilers, which monitors and self-stabilises combustion, based on gas + flue gas conditions

### FAN **5**

Offset fan, to make **maintenance easier on the thermal unit without taking it down**. **Built-in flue gas backflow valve** for connection to C.C.S. (compliant with UNI 7129)

## TOP EFFICIENCY ALSO ON OLD SYSTEMS (REPLACEMENTS)



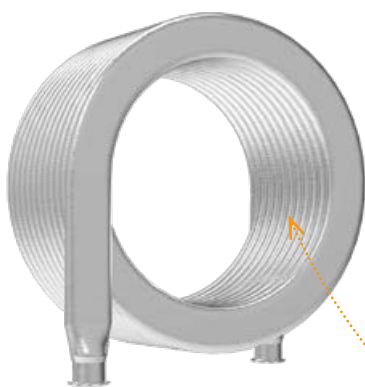
The shape of the heat exchanger of the **THERMOBALANCE™** heat unit of BLUEHELIX MAXIMA (**fig. A**) enables operation at almost maximum design efficiency, even in partially clogged conditions, whereas with the same amount of deposits and sediment (e.g. due to installation on old systems), the traditional heat exchanger in **fig. B** tends to get clogged more quickly in the part in contact with the flame as a result of the reduced fluid flow area, where an actual barrier of deposits\* forms, obstructing the heat exchange and reducing the efficiency to below nominal values.

\* Ref.: same amount (5 gr.) of scaling and deposits in heat exchanger (A) and (B), with the same pipe length section. Scale 150% of the actual measurement.

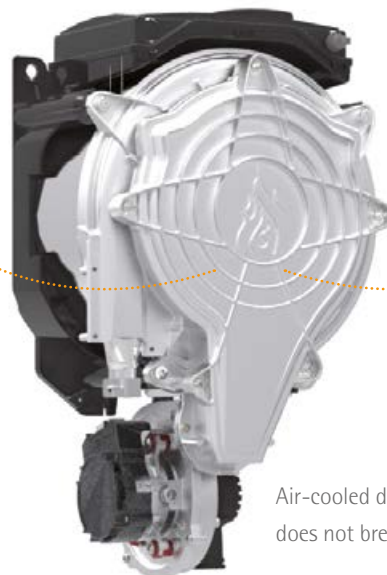
Heat exchange section with a flame

## THE MOTOR: COMBUSTION CELL

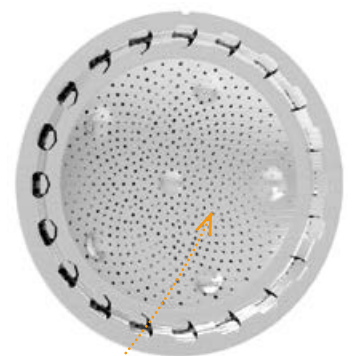
The pipe used in the BLUEHELIX MAXIMA heat exchanger is made of **stainless steel**, a material that creates an **extremely smooth surface**, thereby less affected by scaling and deposits.



Increased extra section, the smooth surface and coil section drastically reduce the percentage of deposits inside the pipe and considerably increase the service life of the heat exchanger



Air-cooled door. No insulation panel (it does not break during maintenance)



Exclusive hemispherical burner in stainless steel





## THE ENHANCED HYDRAULIC UNIT

All BLUEHELIX MAXIMA series models are equipped with an **enhanced 20-plate DHW plate heat exchanger and an enhanced heating circulator with head of 7.5 m.w.c.**



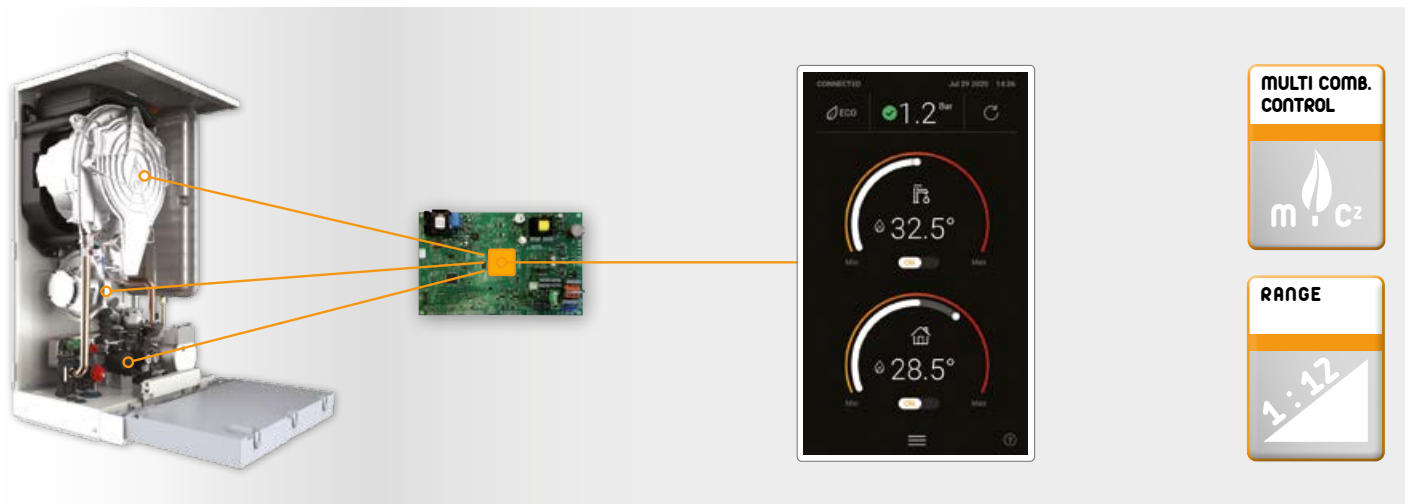
The significant increase in the pass section of the **20-plate heat exchanger** compared to a traditional one (e.g. with 14 plates) significantly **reduces clogging over time, even with particularly hard water**, significantly increasing its average service and minimising maintenance costs.

The enhanced **7.5 metre head** system circulation **pump** allows all BLUEHELIX MAXIMA models to be able to function correctly **supplying all the necessary power even in high pressure drops** (particularly large new systems or old system with scaling).

## MC<sup>2</sup>: MULTI COMBUSTION CONTROL

The electronic device controls the flame ionisation current in order to ensure **perfect combustion** according to the change in air density or gas quality. The ratio between the air/gas flow ( $\lambda$ ) and the flame ionisation signal is used to control the air-gas ratio and, therefore, combustion.

**MC<sup>2</sup>: Multi Combustion Control**, the new combustion system with **gas-adaptive** patented technology for better adaptability of use to the varying gas mains conditions (e.g. pressure fluctuations or drops).



Furthermore, the new control electronics **allow you to achieve high modulation fields** that can reach up to **1:12 with model 34C**.

This way, **BLUEHELIX MAXIMA can** easily and efficiently **adjust itself to the actual power requested by the system, avoiding annoying on/off operation** that increases operation costs and reduces the average service life of the product.



## MAXIMA SIMPLE ELECTRICAL CONNECTIONS

### Quick and safe operations

The electrical connections to be performed to connect **BLUEHELIX MAXIMA** are extremely simple and easy.

**The terminal board for the connections can be accessed directly from the outside** in the bottom part of the device without having to remove the casing to access inside.

This makes **technical operations** safe and **extremely quick**, also avoiding any accidental damage to parts inside the device.



## EASY MAINTENANCE

### Problem-free maintenance

When servicing the device for the first time, technicians can appreciate the care with which each part has been designed to facilitate their work. As a result of easy access to the main components, the **“Thermobalance”™** thermal unit enables maximum accuracy and fast maintenance.

A few examples:

- Internal access is facilitated by a **3-piece casing** with removable sides.
- The electric box of the electronic board can be easily removed from the chassis, giving **free access to the internal parts**.
- The **fan offset from the burner** is situated underneath and must not be removed in order to access the steel burner-heat exchanger.
- The **burner’s door** is fully **air-cooled** automatically and does not require an insulating panel, thereby avoiding the risk of it getting damaged or breaking when being removed for cleaning.
- The **burner is removed by only unscrewing 3 bolts**, giving free access to the stainless steel heat exchanger.
- The **extra-increased pass primary heat exchanger** is designed to challenge extremely hard water conditions and can be **easily cleaned** thanks to the non-manifold single pipe circuit.
- The DHW **inlet filter** can be easily **removed** directly from the inside, **without having to remove the boiler water connections**.
- Disassembly and **replacement of the plate heat exchanger** is carried out easily **by removing the two hex bolts** that can be accessed from the front

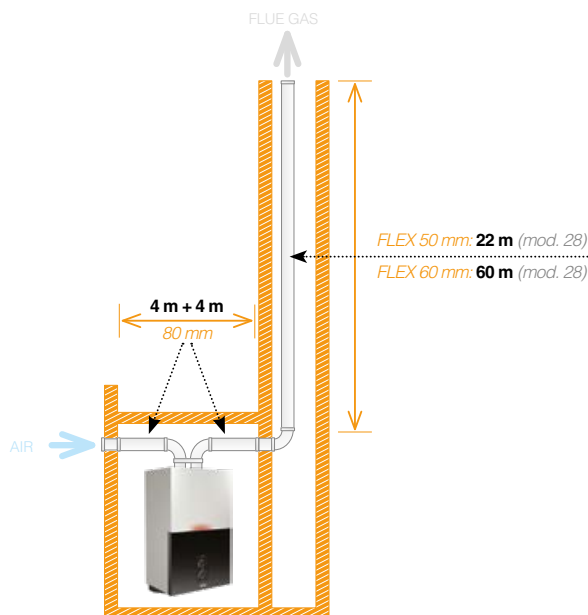
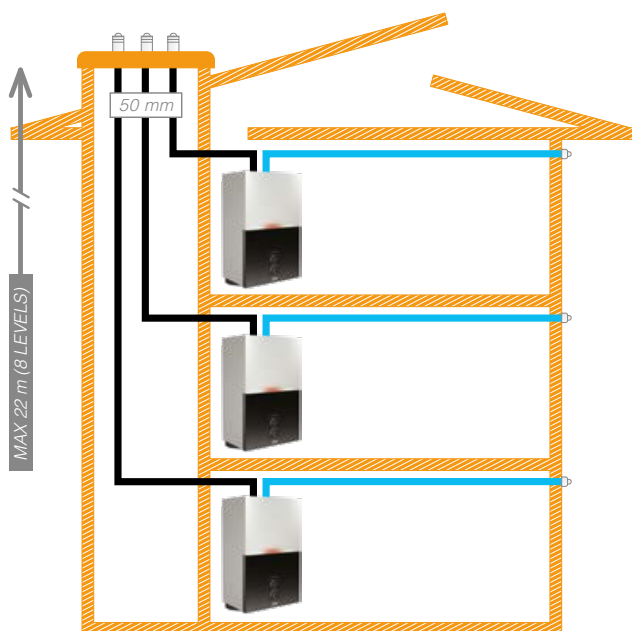


# SIMPLIFIED REPLACEMENT

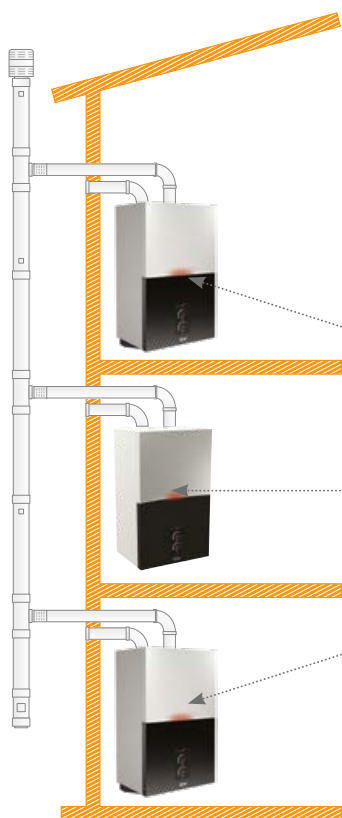
Flue exhaust  $\varnothing$  50 mm

The new boiler can also be installed with 50 mm diameter outlets.

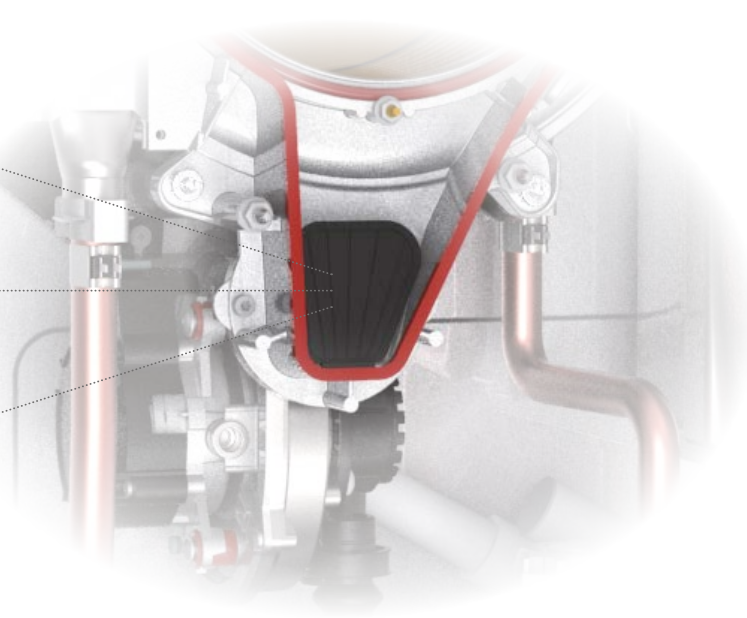
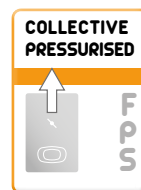
Particularly important in the **replacement market** in the frequent case of collective flues that require “heavy” **pipes**, where it is necessary to have a **high flue gas ejection capacity** also with small diameters.



## Collective pressurised




**F.P.S.:** Flue gas **P**rotection **S**ystem). The flue gas check valve (standard installation) offers **easy connection to pressurised collective flue systems** (e.g. in restructuring), in accordance with regulation UNI 7129. **For other installers**, the solution of pressurised collective flue gas **is more cost effective** (decrease in the diameter of the chimneys).





# CHARACTERISTICS

## Identity card

- > **Aesthetics** with exclusive lines (Patent) that radically remodel the aesthetic concept by using tempered crystal and having curved shapes
- > Wide range of **accessories** available: **remote control** Wi-Fi CONNECT controlled via App (standard supply), **hydraulic connection kit** (5 pipes, 4 valves), **fitting cover** casing
- > **Boiler** with extra thick **stainless steel** primary exchanger, with large passes guaranteeing duration and reduced maintenance
- > **High head, enhanced modulating heating circulator** on all models also able to adapt to particularly resistant systems
- > **Standard semi-automatic system electro-charging**
- > **Enhanced DHW exchanger with high number of plates**, particularly immune to clogging and able to maintain constant DHW production capacity over time
- >  : being combined with the **CONNECT** modulating remote control provided as per standard, and the outdoor temperature reading directly from the internet, it reaches the maximum **energy efficiency A+** (scale from G to A+++)
- > It easily adapts to the load conditions thanks to the **broad modulating range** that can reach **1:12** (mod. 34C, 1:10 mod. 28C)
- > **MC<sup>2</sup>**: Multi Combustion Control, new combustion system with gas-adaptive patented technology for better adaptability of use to the varying gas mains conditions
- > **7" colour touch-screen graphic display**
- > Prompt display of the operation status thanks to the front **multicolour LED**
- > **Particularly suitable for operation in flues requiring "heavy duty" pipes thanks** operation with 50mm diameter flue outlets
- > **Designed to simplify and make normal maintenance and cleaning steps easier** thanks to easy access to the internal parts
- > **Simplified electric wiring** that does not require removing the boiler's casing thanks to **direct access to the external connection terminal board** available on the lower part of the device.



Exclusive integrated Ferrolti "Thermbalance"™ thermal unit



Operating with **natural gas mixtures enriched with hydrogen** already provided for distribution in Europe (\*)  
 (\*) mixtures of Natural Gas/ Hydrogen 80%/20%



**simplified electric wiring** with **direct access to the external connection terminal board** available on the lower part of the device



Modulating ratio between Pmax and Pmin



**F.P.S: Flue gas Protection System.** The flue gas check valve offers **easy connection to pressurised collective flue systems** (e.g. in restructuring), in accordance with regulation UNI 7129



**MC<sup>2</sup>: Multi Combustion Control,** new combustion system with patented "Gas-adaptive" technology



This equipment is designed specifically to offer **particularly simple** installation and maintenance



Operation in a **partially protected place** with a minimum temperature of **-5°C, as standard**



Appliance can be combined with **preheating** systems for the **domestic hot water**



Device operates with **climatic control** and sliding system temperature (optional external temperature probe)



**Remote control** of boiler parameters via remote control



YOU can **delay burner ignition** by starting it up only when domestic hot water is actually drawn



**M.G.R: Methane LPG Propane-air Ready,** with a simple configuration, the boiler can run on methane or LPG without using additional conversion kits



It reaches one of the highest seasonal space heating efficiencies in its category: **η<sub>s</sub> 94%**



**7.5 m increased head circulation pump.** Enables supply of all the necessary power also to systems with high pressure drops



Approved for operation with **50mm diameter flue gas discharge**



Stainless steel **high performance mono-thermal** primary exchanger

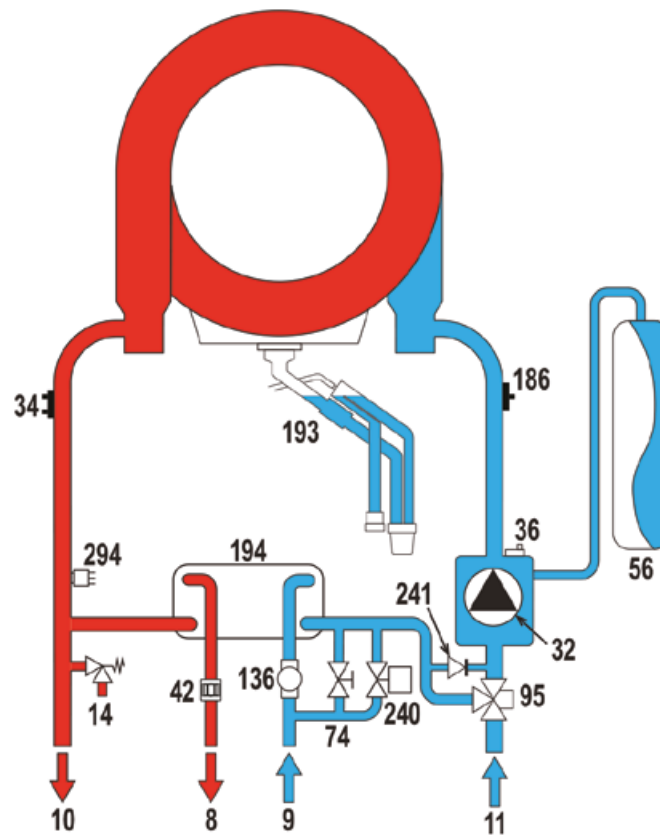


**Enhanced 20-plate DHW heat exchanger.** Reduced clogging over time, also with particularly hard water



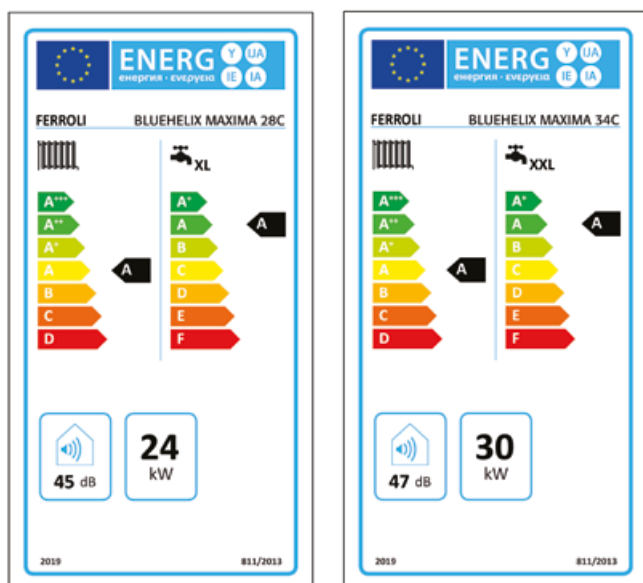
# CHARACTERISTICS

## Hydraulics - Energy label

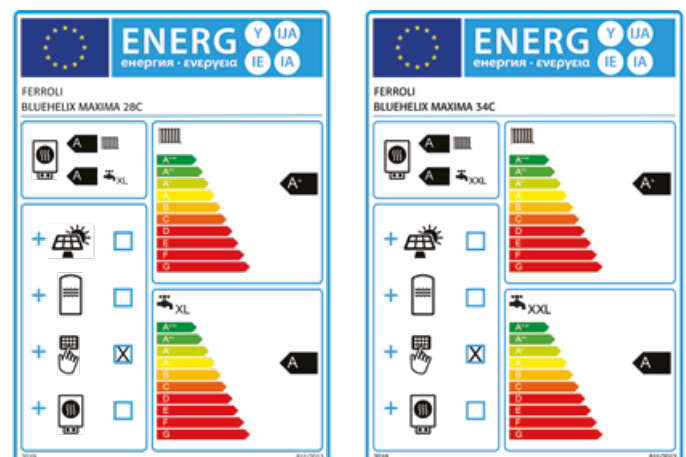


**KEY** 8 DHW outlet 9 DHW inlet 10 System delivery 11 System return 14 Safety valve 32 Heating circulator 34 Heating temperature sensor 36 Automatic air vent 42 DHW temperature probe 56 Expansion vessel 74 System filling tap 95 Diverter valve 136 Flowmeter 186 Return sensor 193 Siphon 194 DHW heat exchanger 240 System filling solenoid valve 241 Automatic bypass (inside the pump unit) 294 Pressure sensor

### BOILER ENERGY LABEL



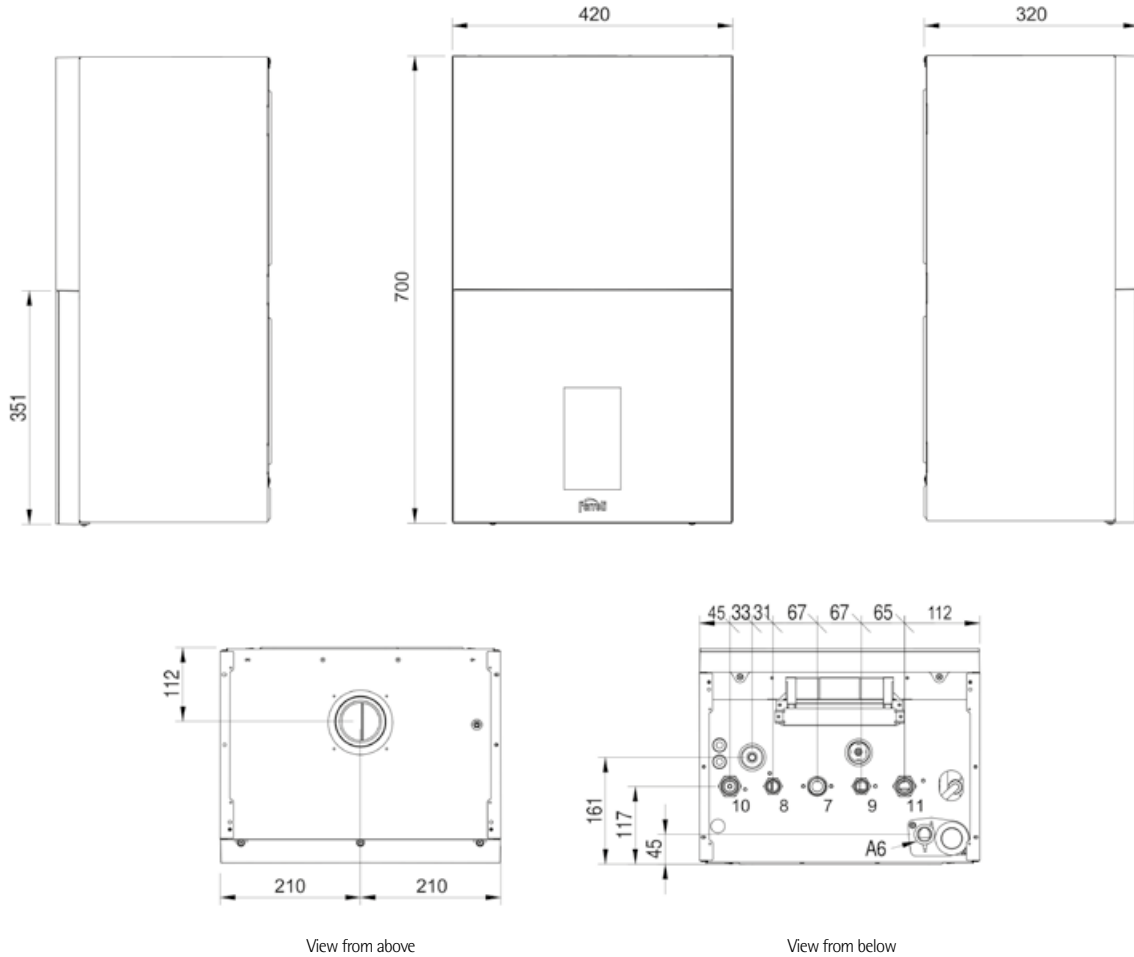
### BOILER SYSTEM ENERGY LABEL + AMBIENT CONTROL





# CHARACTERISTICS

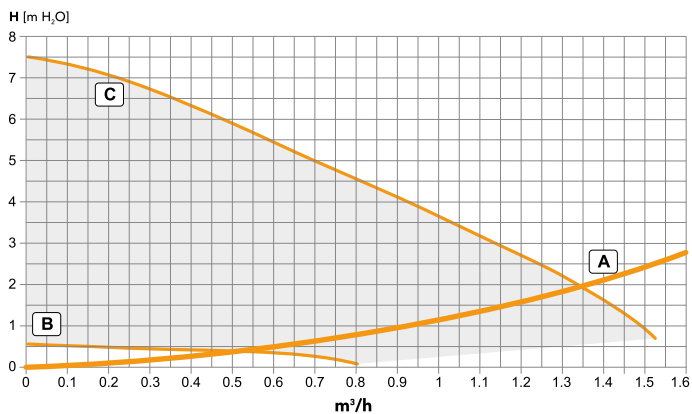
## Dimensions - Head/pressure drops



**KEY** 7 3/4" gas inlet 8 1/2" DHW outlet 9 1/2" DHW inlet 10 3/4" system delivery 11 3/4" system return A6 condensate discharge connection

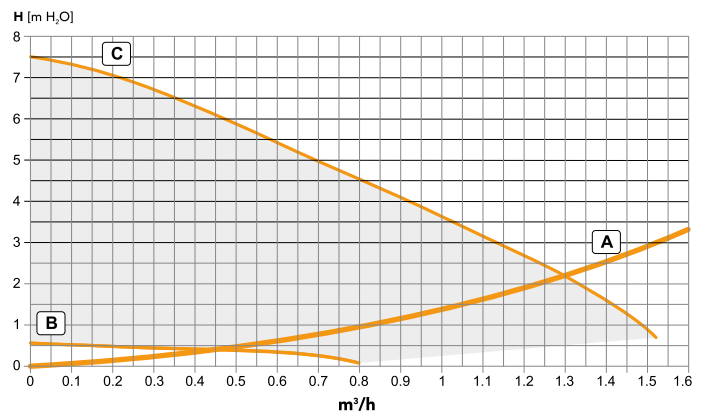
### EFFECTIVE HEAD AVAILABLE TO THE SYSTEM

#### BLUEHELIX MAXIMA 28 C



A Boiler pressure drops - B Min circulator speed - C Max circulator speed

#### BLUEHELIX MAXIMA 34 C









A Boiler pressure drops - B Min circulator speed - C Max circulator speed





# BOILER TECHNICAL DATA

## Summary table

BLUEHELIX MAXIMA			28 C	34 C
ERP Class		(Class G - A <sup>++</sup> )	 (*)	 (*)
		(Class G - A)		
Heating max / min heat input (Hs)	kW		24.5 / 2.9	30.6 / 2.9
Heating max / min heat output (80/60°C)	kW		24.0 / 2.8	30 / 2.8
Heating max / min heat output (50/30°C)	kW		26.0 / 3.1	32.5 / 3.1
DHW max heat input (Hi)	kW		28.5	34.7
DHW min heat input (Hi)	kW		2.9	2.9
DHW max / min heat output	kW		28.0 / 2.8	34.0 / 2.8
Pmax efficiency (80-60°C) (Hi)	%		98.1	97.9
Pmin efficiency (80-60°C) (Hi)	%		98	98
Pmax efficiency (50-30°C) (Hi)	%		106.1	106.1
Pmin efficiency (50-30°C) (Hi)	%		107.5	107.5
Efficiency 30%	%		109.7	109.5
G20 supply gas pressure	mbar		20	20
G20 max gas flow rate	m <sup>3</sup> /h		3.02	3.67
G20 min gas flow rate	m <sup>3</sup> /h		0.31	0.31
CO <sub>2</sub> max / min G20	%		9±0.8	9±0.8
G31 supply gas pressure	mbar		37	37
G31 max/ min gas flow rate	kg/h		2.21 / 0.23	2.70 / 0.23
CO <sub>2</sub> max / min G31	%		10±0.8	10±0.8
NOx emission class (EN 15502-1)	-		6	6
Max heating working pressure	bar		2.5	2.5
Min heating working pressure	bar		0.8	0.8
Max heating temperature	°C		95	95
Heating water content	litres		2.9	4.3
Heating expansion vessel capacity	litres		8	10
Heating expansion vessel preload pressure	bar		0.8	0.8
DHW max working pressure	bar		9	9
DHW min working pressure	bar		0.3	0.3
DHW flow rate Δt 25°C	l/min		16.1	19.5
DHW flow rate Δt 30°C	l/min		13.4	16.2
Protection rating	IP		X4D	X4D
Supply voltage	V/Hz		230V / 50Hz	230V / 50Hz
Absorbed electric power	W		82	99
Empty weight	kg		28	32

(\*) In combination with CONNECT remote control. It's also available the code of boiler only



**NOTICE FOR SALES AGENTS:**

With a view to constantly improve its production range and customer satisfaction levels, the Company hereby specifies that aesthetic and/or dimensional features, specifications and accessories may be subject to changes.

Please place the utmost care to ensure all technical and/or sales documents (lists, catalogues, brochures, etc.) provided to the final Customer are updated according to the latest edition.

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