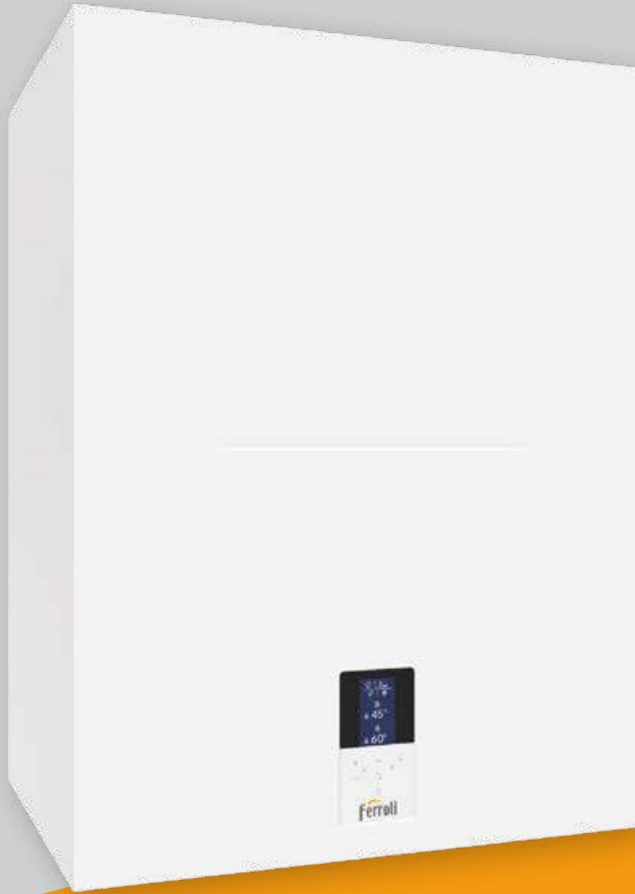


# Ferrolì



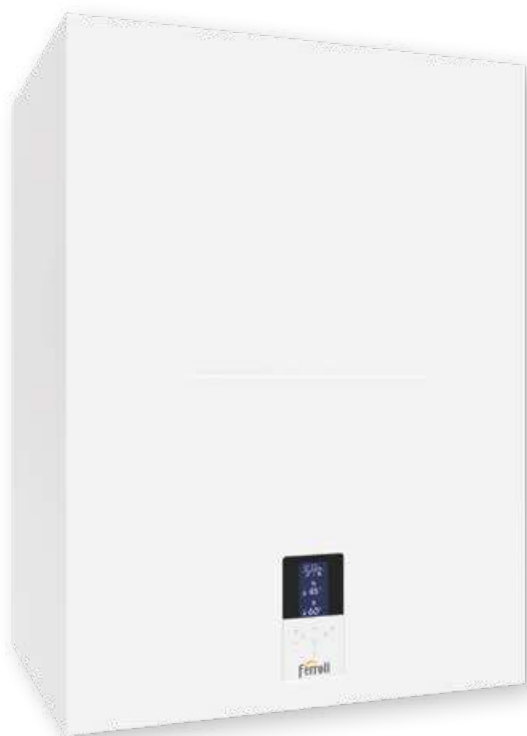
**H<sub>2</sub>**  
HYDROGEN  
PLUG-IN

## Bluehelix Hitech RRT K 50

Condensing wall boilers with stainless steel domestic hot water storage



# BLUEHELIX HITECH RRT K 50: EVOLUTION IS COMPLETE



The new range of BLUEHELIX HITECH boilers is further completed with 50-litre stainless steel sanitary storage versions able to meet the demands of the most demanding customers in terms of domestic water production and beyond.

**The new user interface with “capsense” technology**, without mechanical keys, is equipped with a 2.8” graphic display, allowing the user to interact with the product in an easy and extremely simple way.

Thanks to **the energy efficiency of room heating  $\eta_s$  94%**, among the highest in its category (Class A ErP, scale from G to A++) and the **combination with the Connect remote control**, able to read the outdoor temperature directly from the internet, **it reaches the energy class of system A+** (scale from G to A+++).

Thanks to the **“Hydrogen plug-in”** system, one of its most important innovations, it is already able to regulate itself to work with mixtures of natural gas and hydrogen, which will soon arrive in Europe, to **combat global warming**.

Designed to fully meet the demands of a **“robust” product from every point of view** thanks to the **high-pass primary heat exchanger** able to guarantee **maximum efficiency and reliability over time** also, and not only, replacing old generators in particularly dirty systems.



## OUR RANGE

models operating on both methane and LPG

### mod. 28

COMBINED (13.4 l / min at  $\Delta t$  30°C)

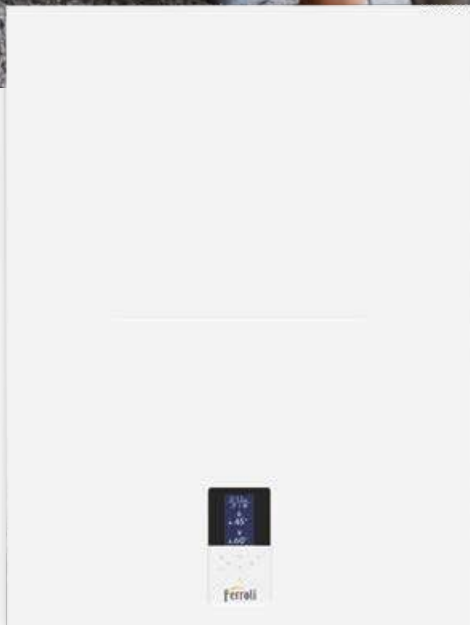
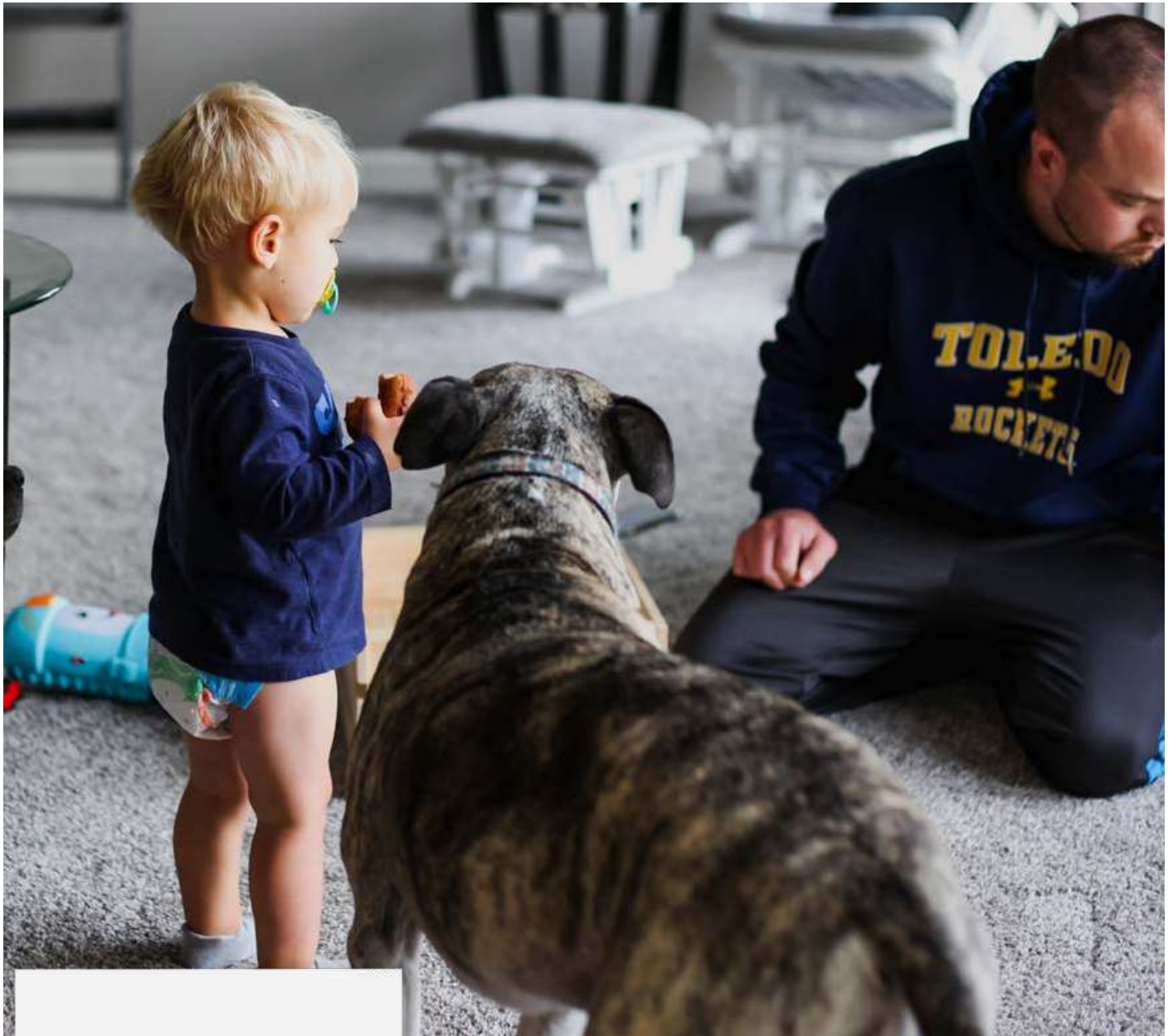
### mod. 34

COMBINED (16.2 l / min at  $\Delta t$  30°C)



# TOP QUIETNESS

For maximum home comfort



The particularly careful design of BLUEHELIX HITECH RRT K 50 has made it possible to achieve significant values in terms of **quietness and acoustic comfort**, so much so that it could almost be difficult to distinguish the background noise of a house from the noise produced by the boiler during normal operation.

It will be difficult to tell whether the boiler is on or off from its noise, as it used to be on the old generations of boilers, because the **on/off transistors have also been optimised according to acoustic comfort**.

Special attention was also paid to design, creating a 3 piece removable shell, which descends to cover the pipe connections.

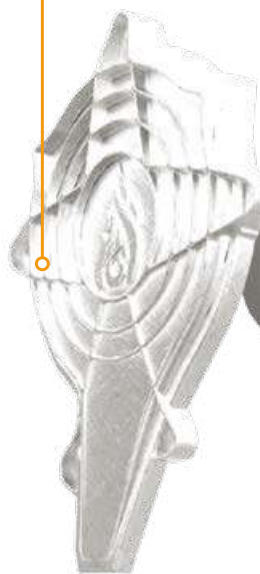


# BLUEHELIX HITECH RRT K 50

## Inside view

### BURNER DOOR

Self-cooled burner door without insulating panel



### BURNER

Exclusive special stainless steel hemispherical burner with gasket long-life



### HEAT EXCHANGER

Single-circuit stainless steel heat exchanger with high passages, resistant to clogging and easy to clean



### BOILER

50-litre insulated stainless steel boiler



### TANK

10 litre heating tank

### CLAPET CHECK VALVE

Integrated flue gas clapet for connection to collective pressure flue gas systems

### GAS ADAPTIVE

Intelligent “Gas-adaptive” system derived from industrial boilers, which monitors and self-stabilises combustion as gas + fumes conditions change

### VENTILATOR

Offset fan, to facilitate the maintenance of the heating unit without disassembly.

### TANK

2 litre water tank

### USER INTERFACE

With “Capsense” technology and 2.8” graphic display


### BOILER PROTECTION

Magnesium anode



# FEATURES

## Plus of product

- > **Boiler** with high thickness stainless steel primary exchanger, with increased passages (at the top of the category) to guarantee durability and reduced maintenance, maintains high efficiency even on old plants with oxidation and dirt
- >  : thanks to the combination of the **CONNECT** modulating remote control and the reading of the external temperature directly from the internet, it reaches the maximum **efficiency of ethicalenergy A+** (scale from G to A+++)
- > **MC<sup>2</sup>: Multi Combustion Control**, new combustion system with patented gas-adaptive technology of industrial derivation for a better adaptability of use to varying conditions of the gas network (e.g. fluctuations or reduced pressures)
- > **M.L.R: Methane Lpg Ready**, through a simple configuration the boiler is able to operate both methane and LPG without the use of additional conversion kits
- > Exclusive **heat exchanger-burning system with self-cooled door** (without insulation): simplifies maintenance and reduces cost thanks to fewer deteriorated parts
- > **Production of domestic hot water** with 50-litre stainless steel storage
- > Arrangement for **recirculation couplings** (present in the accessory: coupling connection kit)
- > **Hydraulic connections** covered by the boiler mantle
- > Large **multifunction graphic display** with backlight for easy and correct parameter setting
- > **By-pass** as standard
- > Easily adapts to load conditions thanks to the **wide modulation range** that can reach up to 1:10 (mod. 34)
- > **Particularly suited for operating in flues requiring "heavy-duty" pipes thanks to approval for operation with flue gas exhaust pipes with a diameter of 50mm**
- > **F.P.S: Flue Protection Systems**. The **smoke clapper valve fitted as standard** on the boiler allows easy connection to collective pressure flue systems (e.g. in renovations), in accordance with UNI 7129 standard
- > Designed to **simplify and facilitate normal maintenance and cleaning**

## THE PRODUCT IN A NUTSHELL



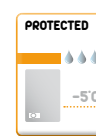
Exclusive Ferrol  
"Thermobalance"<sup>TM</sup>



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



**Stainless steel high-performance** monothermal primary heat exchanger



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



**F.P.S: Flue Protection Systems**. The flue clapper valve allows **easy connection to collective flue systems under pressure** (e.g. in remediation), in accordance with UNI 7129 standard



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



Appliance especially designed to be **particularly simple** to install and maintain



Modulation ratio between **Pmax and Pmin**



**M.G.R: Methane Lpg Propanate Air Ready**, through a simple configuration the boiler is able to operate both methane and LPG without the use of additional conversion kits



Appliance operating in **climatic regulation** at sliding system temperature (optional external temperature probe)



Approval for operation with **50mm diameter flue exhausts**



It achieves a seasonal efficiency of room heating which is among the highest in its category: **ηs 94%**



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



Appliance certified as **"range rated"** according to EN 483



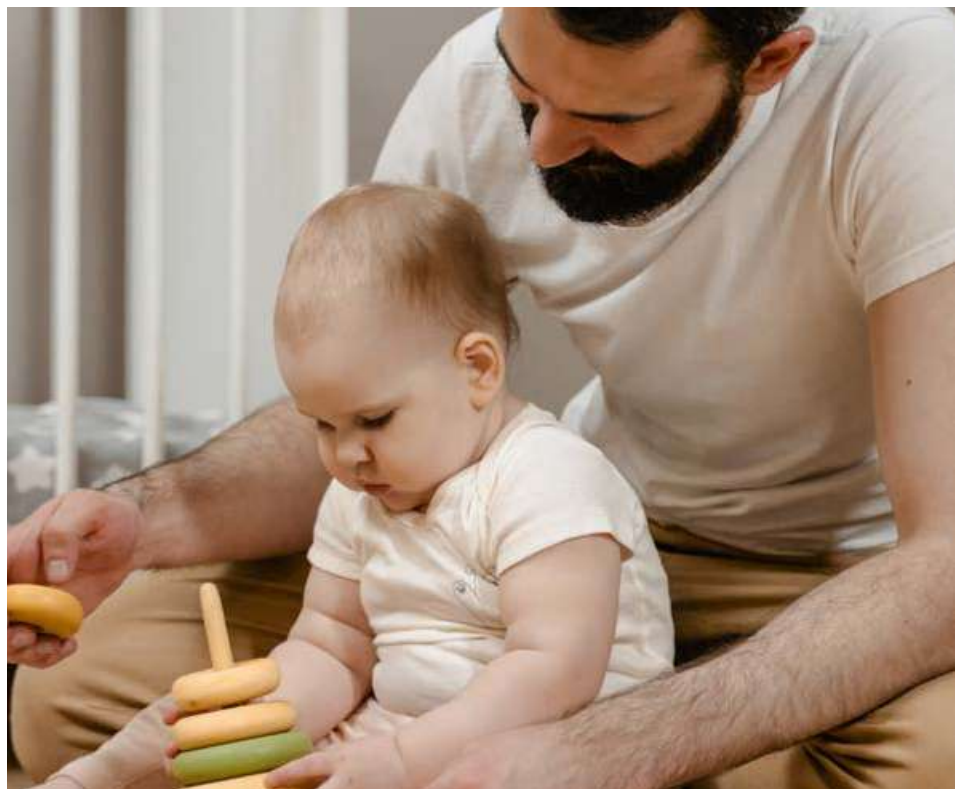
# BOILER CONTROL

## Control panel and functions

The new user interface with “capsense” technology, without mechanical keys and equipped with a 2.8” graphic display, allows the user to interact with the product in an easy and extremely simple way, customising the operation of the appliance in order to manage environmental comfort according to every need.

Thanks to the **remote connection via bus**, this can also be done directly from the CONNECT remote control, even via smartphone.

The boiler is also designed to connect a **second room thermostat** on dedicated terminals to manage multi-zone systems.



**LEGEND** 1 DHW temperature setting decrease button 2 DHW temperature setting increase button 3 Heating system temperature setting decrease button 4 Heating system temperature setting increase button 5 Display 6 Return button 7 “Winter”, “Summer”, “device OFF”, “ECO”, “COMFORT” mode selection 8 Eco mode indication 9 DHW mode indication 10 Summer/Winter mode indication 11 Menu / confirmation button 12 System pressure indication 13 Heating mode indication 14 Burner on indication



# CONNECT

## Remote control

- Remote control supplied with kit code in class A+ for the **management of home comfort also from Smartphone (\*)**
- **Possibility to manage up to 8 zones** through the use of additional environmental units
- **Connection to the home WiFi network** via RF/WiFi receiver supplied
- CONNECT APP available for boiler on/off and **home comfort management** remote heating/hot domestic water via Smartphone (iOS and Android)
- **Maximisation of room comfort** with modulating regulation of the delivery temperature through the **Environment Climate Compensation (CCA) functions differentiated for each zone and External Climate Compensation (CCE)** through **external temperature detectable directly from the internet** (or from an optional external probe)
- **Improves average seasonal space heating efficiency by +4%**
- **Weekly hourly programming in 30-minute intervals** via the CONNECT APP
- **Operating mode:** Off, Holiday, Automatic, Manual
- **Three modifiable temperature levels:** Comfort, Economy, Antifreeze

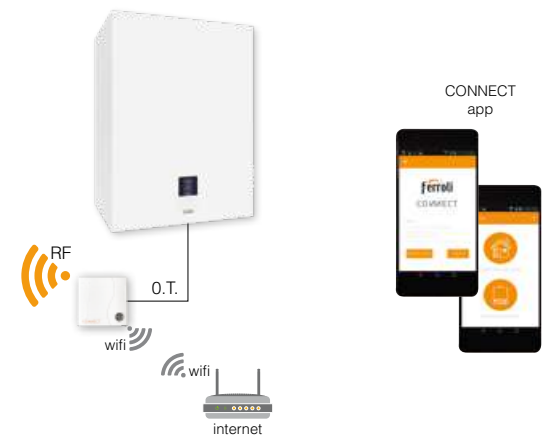
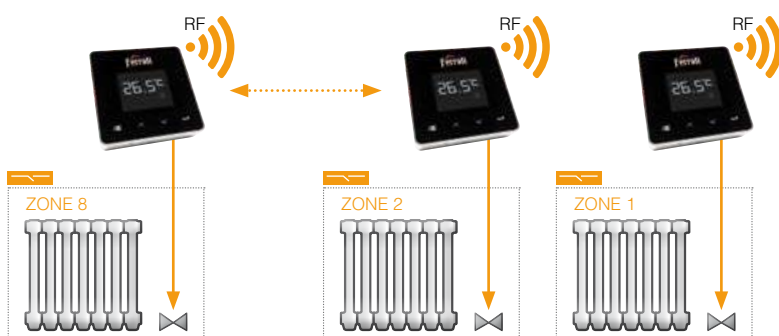


Command

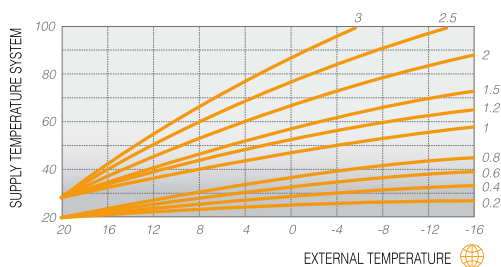


RF/WiFi Receiver

## MULTI-ZONE MANAGEMENT

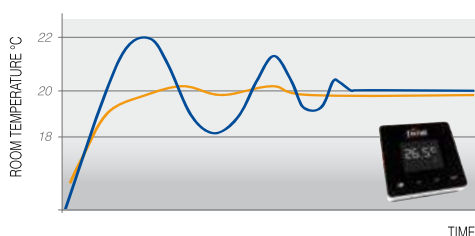


## CLIMATE COMPENSATION



### CCE | WEB | EXTERNAL CLIMATE COMPENSATION

By reading the external temperature directly from the internet (or from the optional external probe) the system is able to vary the system temperature according to the external temperature measured on the basis of configurable climatic curves, thus guaranteeing the user maximum environmental comfort as external climatic conditions vary.



### CCA | ENVIRONMENT CLIMATE COMPENSATION

The CONNECT modulating function allows a **modulation of the boiler power** as the set **room temperature value** is reached. This improves the quality of comfort by eliminating heat spikes resulting in energy savings.

WITH REMOTE CHRONO CONTROL CONNECT

WITH NON-MODULATING ROOM THERMOSTAT



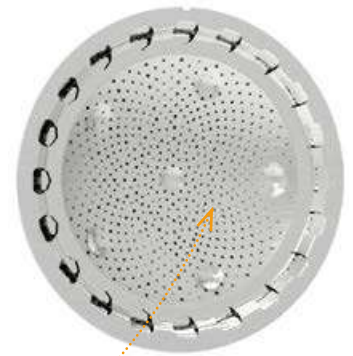
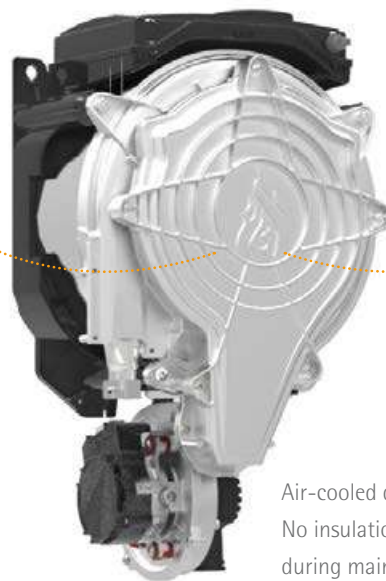
# THE ENGINE

## Combustion cell

The tube that makes up the BLUEHELIX HITECH RRT K 50 heat exchanger is made of **stainless steel**, a material that makes it possible to create an **extremely smooth surface**, therefore less susceptible to fouling agents and deposits.



Extra enlarged section, smooth surface and coil path drastically decrease the percentage of deposits inside the tube and greatly lengthen the life of the exchanger

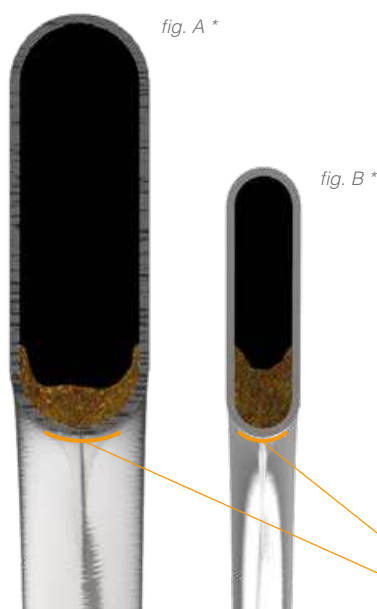


Exclusive hemispherical stainless steel burner

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

# TOP EFFICIENCY

## Even on old systems (replacements)



The THERMOBALANCE™ heat exchanger of BLUEHELIX HITECH RRT K 50 (**fig. A**) compared to the more classic and widespread steel heat exchanger (**fig. B**).

This geometry allows the heat exchanger of the **THERMOBALANCE** thermal unit to operate almost at the maximum of the design efficiency even in conditions of partial clogging, while with the same amount of deposits and sediments (e.g. due to installation on old plants) the exchanger in **fig. B** tends to clog much faster in the part in contact with the flame due to the reduced passage area of the fluid, in which a real barrier of deposits\* is formed that hinders the heat exchange and reduce the efficiency below the nominal values.

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

Section of heat exchange with the flame

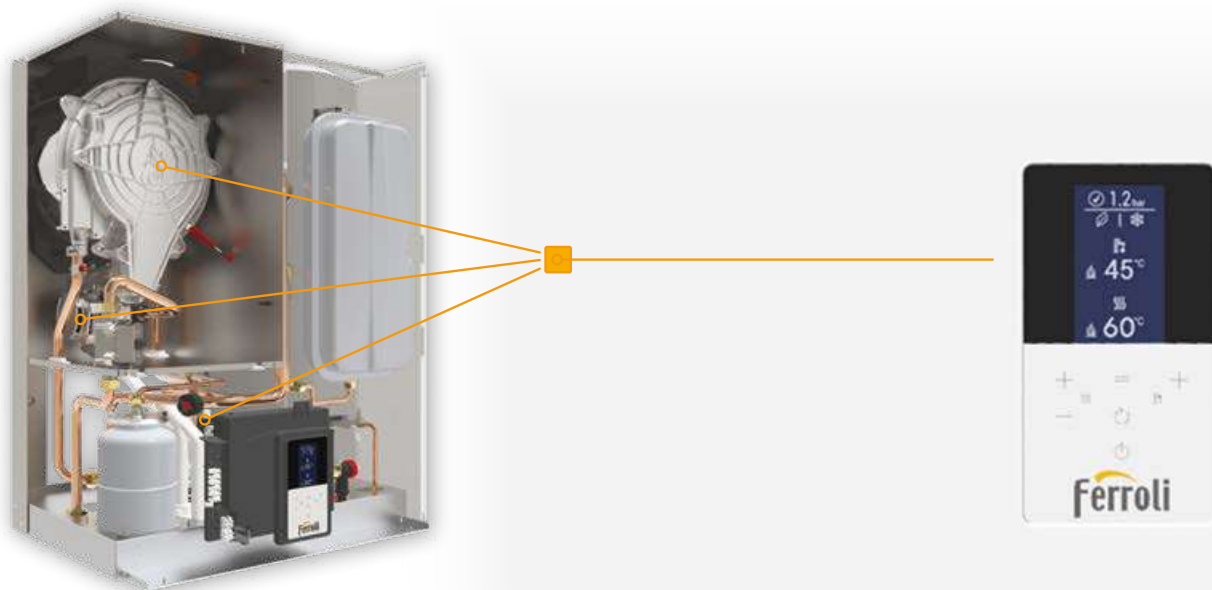




# MC<sup>2</sup>

## Multi Combustion Control

The electronics control the flame ionisation current so as to ensure **optimal combustion** as air density or gas quality changes. The relationship between the air/gas ratio ( $\lambda$ ) and the flame ionisation signal is used to control the air/gas ratio itself and therefore the combustion. **MC<sup>2</sup>: Multi Combustion Control**, the new combustion system with patented **gas-adaptive** technology improves the adaptability of use to varying conditions of the gas network (e.g. fluctuations or reduced pressures).



# EASY MAINTENANCE

## Trouble-free maintenance

At the time of the first maintenance, the technician can see the care with which every detail has been designed to facilitate their work. Thanks to the maximum accessibility of the main components, the **"Thermobalance"<sup>TM</sup> thermal unit** allows for extremely precise and quick maintenance. Some examples:



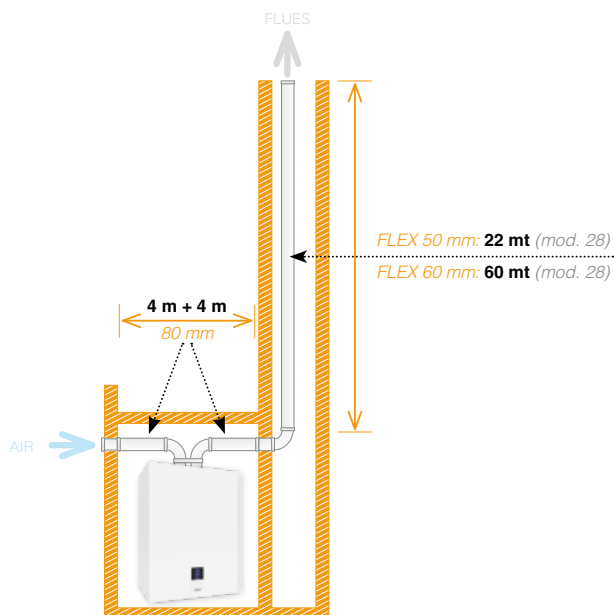
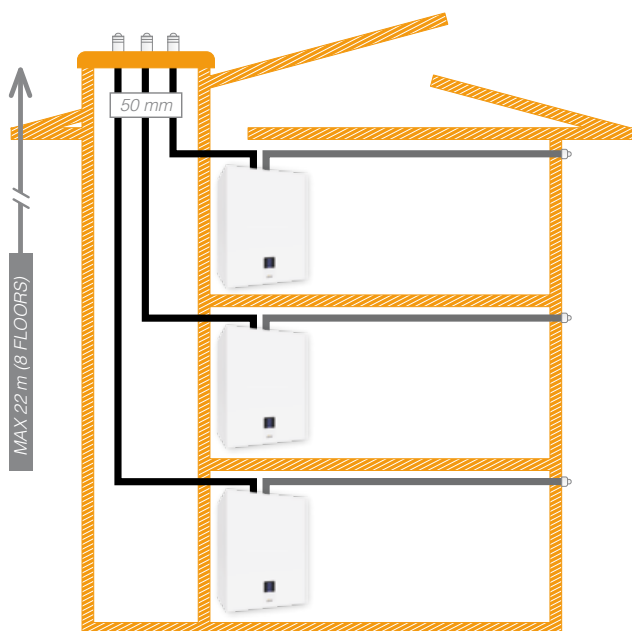
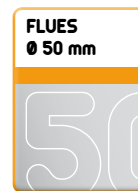
- The internal accessibility is facilitated by **the 3 piece shell** with removable sides.
- The electrical box of the electronic board can be easily removed from the chassis leaving **free access to the internal parts**.
- The **fan offset from the burner** and placed underneath, must not be disassembled to access the steel burner-exchanger unit.
- The **burner door** is totally **self-cooled** by air and therefore does not require the insulating panel, avoiding the risk that this may be damaged or broken during disassembly for cleaning.
- The **burner is disassembled by loosening only 3 bolts** leaving free access to the stainless steel heat exchanger.
- The **extra-major heat exchanger** is designed to challenge the toughest waters and is **easily cleanable** thanks to the single tube with no collector circuit.
- Easy inspection and cleaning of the boiler thanks to the availability of a large two-bolt flange also containing the protection anode.

# SIMPLIFIED REPLACEMENT

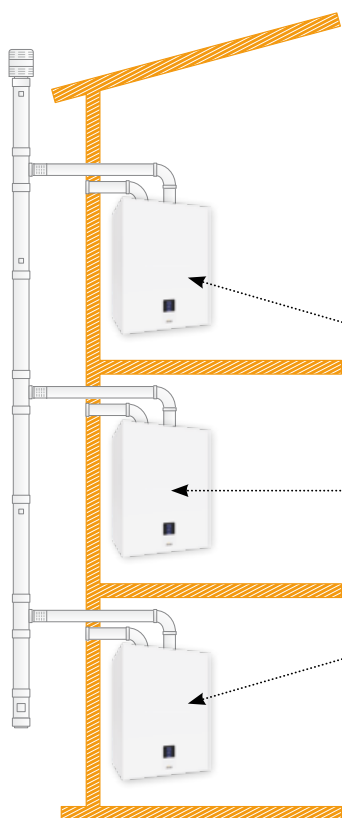
Flue exhaust  $\varnothing$  50 mm

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

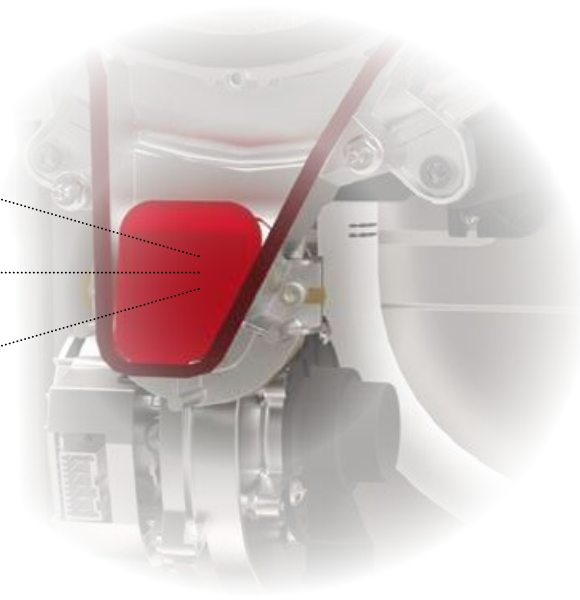
Particularly important in **the replacement market** in the frequent case of collective flues that require **“heavy” intubation** where it is necessary to have a **high flue gas expulsion capacity** even with reduced diameters.



## Pressure collectors



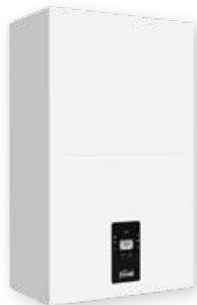
**F.P.S.:** Flue Protection System. The smoke clapper valve (installed as standard) allows an **easy connection to collective flue systems under pressure** (e.g. in renovations), in accordance with UNI 7129. **For installers, the solution of the collective pressure rod is cheaper** (reduction of chimney diameters).





# NEW FERROLI FAMILY LINE

A complete range



**BLUEHELIX ALPHA**  
24C - 28C - 34C



**BLUEHELIX HITECH RRT**  
24C - 28C - 34C - 28H - 34H - 45H



**BLUEHELIX MAXIMA**  
28C - 34C



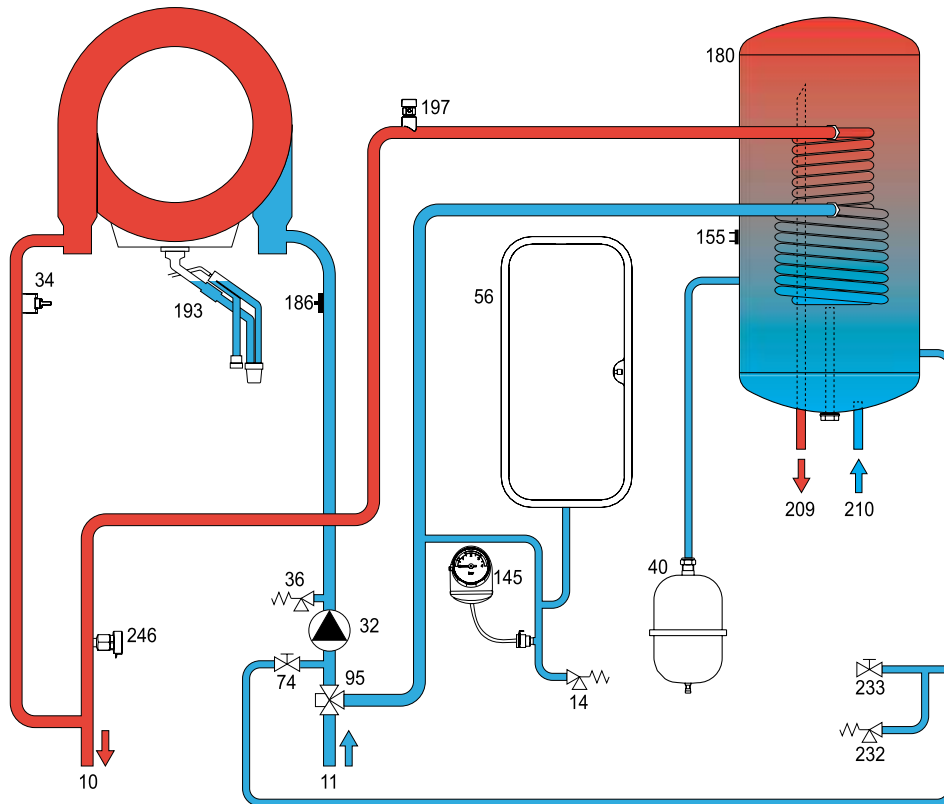
**BLUEHELIX HITECH RRT K 50**  
28 - 34





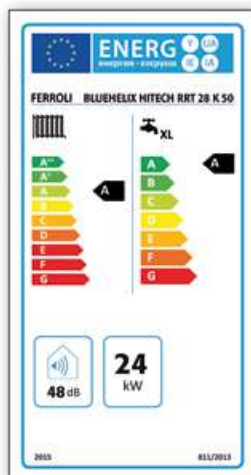
# CHARACTERISTICS

## Hydraulics - Energy label

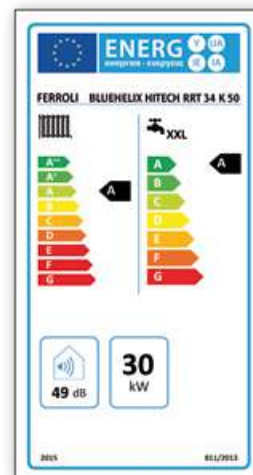


**LEGEND** 10 System delivery 11 System return 14 Safety valve 32 Heating circulator 34 Heating temperature sensor 36 Automatic air vent 40 Sanitary expansion 56 Expansion tank 74 System filling tap 95 Diverter valve 145 Hydrometer 155 Boiler temperature probe 180 Boiler 186 Return sensor 193 Siphon 197 Manual air vent 209 Domestic hot water outlet 210 Domestic hot water inlet 232 Domestic hot water safety valve 233 Boiler drain tap 246 Pressure transducer

MOD. 28



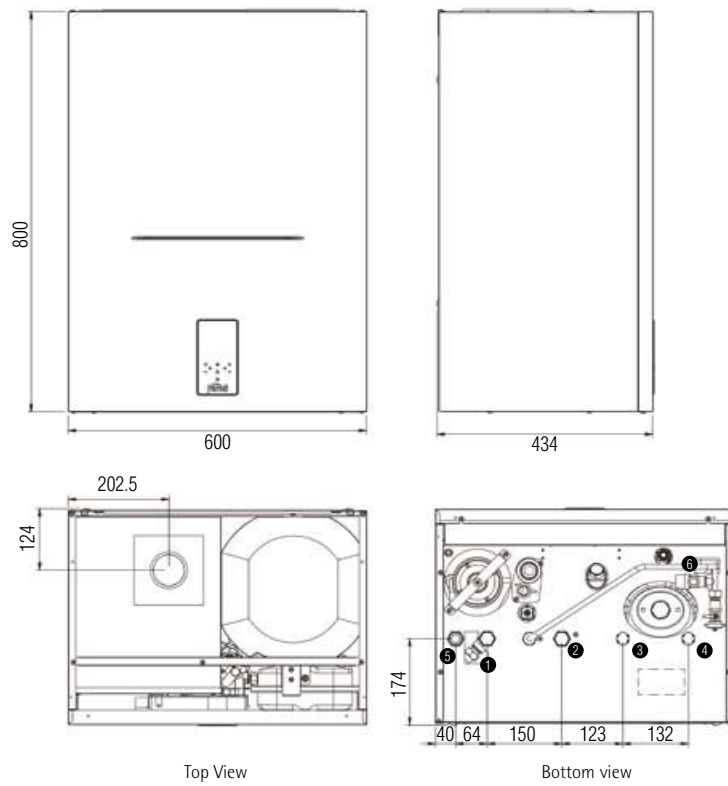
MOD. 34





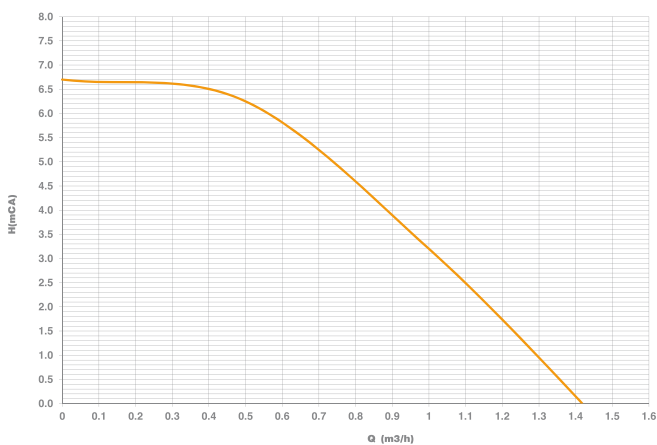
# TECHNICAL DATA

## Dimensions - Load losses/hydraulic head

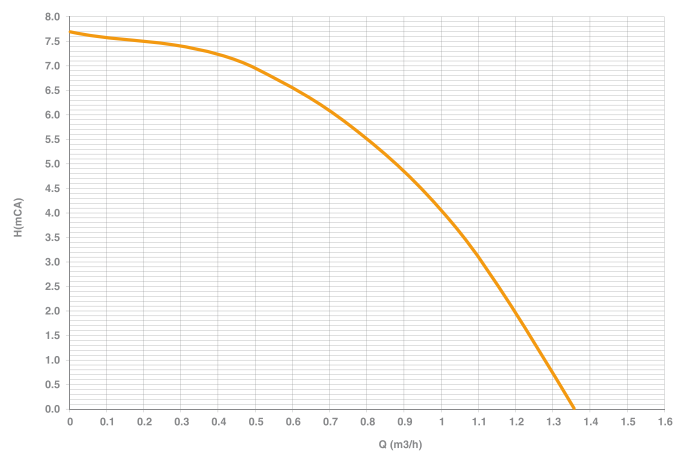


**LEGEND** 1 supply heating system 3/4" 2 return heating system 3/4" 3 domestic hot water outlet 1/2" 4 domestic hot water inlet 1/2" 5 gas inlet 3/4" 6 exhaust heating safety valve

BLUEHELIX HITECH RRT K 50 MOD. 28



BLUEHELIX HITECH RRT K 50 MOD. 34





# TECHNICAL DATA

## Summary Table

BLUEHELIX HITECH RRT K 50		28	34
ERP Class	(Class G - A++)		
	(Class G - A)	XL	XXL
Heating max / min thermal flow rate	kW	24.5 / 3.5	30.6 / 3.5
Max/min thermal output in heating (80/60°C)	kW	24.0 / 3.4	30.0 / 3.4
Max/min thermal output in heating (50/30°C)	kW	26.0 / 3.8	32.5 / 3.8
Max sanitary thermal flow rate	kW	28.5	34.7
Min sanitary thermal flow rate	kW	3.5	3.5
Max/min thermal output in DHW	kW	28.0 / 3.4	34.0 / 3.4
Pmax Efficiency (80-60°C)	%	98.1	97.9
Pmin Efficiency (80-60°C)	%	98.0	98.0
Pmax Efficiency (50-30°C)	%	106.1	106.1
Pmin Efficiency (50-30°C)	%	107.5	107.5
Efficiency 30%	%	109.7	109.6
Supply gas pressure G20	mbar	20	20
Max gas flow rate G20	m³/h	3.02	3.67
Min gas flow rate G20	m³/h	0.37	0.37
CO <sub>2</sub> max / min G20	%	9.3 / 9.2	9.3 / 9.2
Supply gas pressure G31	mbar	37	37
Gas flow rate max / min G31	kg/h	2.23 / 0.27	2.72 / 0.27
CO <sub>2</sub> max / min G31	%	10.3 / 9.8	10.3 / 10.0
NOx emission class (EN 15502-1)	-	6	6
Max Heating Operating Pressure	bar	3	3
Min Heating Operating Pressure	bar	0.8	0.8
Max Heating Temperature	°C	95	95
Heating water content	litres	3.8	4.2
Heating Expansion Tank Capacity	litres	10	10
Heating expansion tank preload pressure	bar	0.8	0.8
Max Domestic Hot Water Operating Pressure	bar	9	9
Min Domestic Hot Water Operating Pressure	bar	0.3	0.3
Domestic Hot Water flow rate Δt 25°C	l/min	16.1	19.5
Domestic Hot Water flow rate Δt 30°C	l/min	13.4	16.2
Degree of protection (IEC 60529)	IP	X4D	X4D
Supply voltage	V/Hz	230V / 50Hz	230V / 50Hz
Electric power absorbed	W	82	105
Empty weight	kg	62	65



# NOTES

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**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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