

Ferrolì



Bluehelix Tech RRT

Wall-hung condensing boiler with Ferrolì Thermobalance™ heat cell



BLUEHELIX TECH RRT... EVOLUTION GOES ON



The generator range comes with the well-tested stainless steel exchanger. Designed and built in accordance with the new ErP regulation for eco-compatible design and labelling, BLUEHELIX TECH RRT is at the top of its range.

BLUEHELIX TECH RRT has one of the highest **energy efficiency** levels for boilers in terms of heating: η_s **94%** (Class A ErP, scale from G to A++, European energy labeling). Moreover, when combined with the external probe and Romeo, the remote control, it reaches energy class A+ (scale from G to A+++).

THE RANGE

Operate both with natural gas and LPG

mod. 24 C

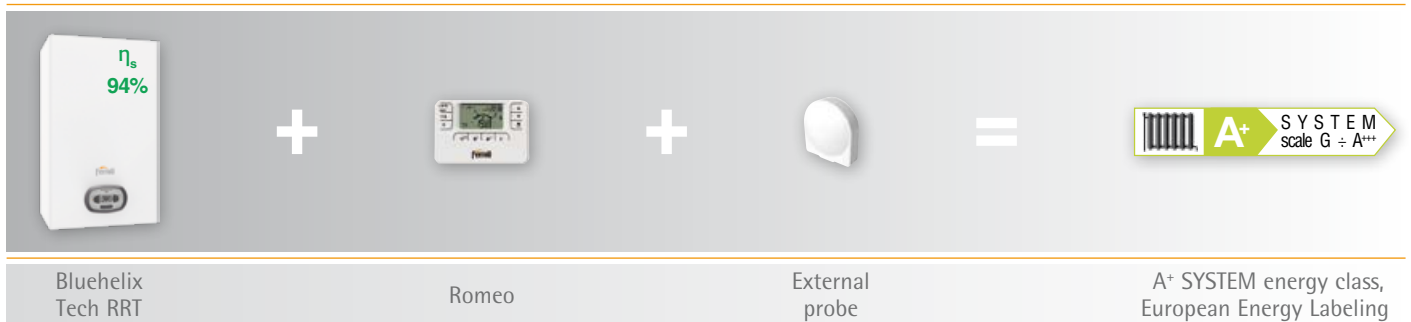
COMBI (14 l/min at Δt 25°C)

mod. 28 C

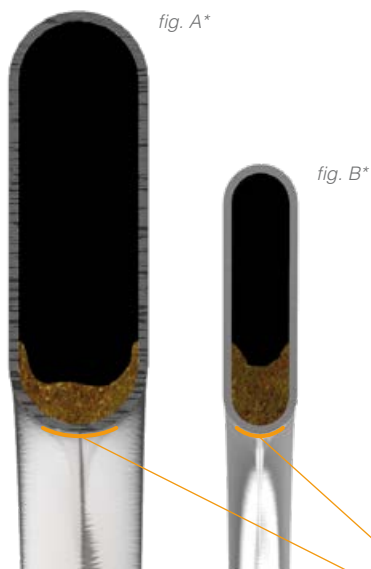
COMBI (16 l/min at Δt 25°C)

mod. 34 C

COMBI (19.5 l/min at Δt 25°C)



TOP EFFICIENCY ALSO ON OLD INSTALLATIONS (REPLACEMENTS)



The exchanger of the **THERMOBALANCE™** heat cell of BLUEHELIX TECH RRT (**fig. A**) compared with the more classic and popular stainless steel exchanger (**fig. B**) used in the past by the Ferrolì Group, too, only on a small series of boilers made for the UK market and then discarded in favour of the evolution towards the proprietary stainless steel exchanger used on Bluehelix models (2012 ->).

Thanks to this design, the exchanger of the **THERMOBALANCE** heat cell can operate almost at the top of its efficiency range, even in the event of partial clogging. On a like-to-like basis in terms of deposits and build-up (e.g. due to installation on old systems), the exchanger in **fig. B** instead tends to become clogged far earlier in the part in contact with the flame due to the small fluid passage area, where an actual barrier of deposits* form. They prevent thermal exchange and reduce efficiency below nominal values.

*Ref.: equal amount (5 g.) of encrustations and deposits in the exchanger (A) and (B), given a tube section of the same length. Scale 150% of the actual size.



FEATURES

Benefits of the product

- > **Boiler** with extra-thick stainless steel primary heat exchanger, with increased sections (at the top of its range) to ensure durability and reduced maintenance, it maintains high efficiency levels even on old systems with oxidation and dirt
- > It reaches **one of the highest** seasonal efficiency levels in terms of heating: η_s **94%** and when combined with the modulating remote control and the external probe (both of which are optional), it reaches the highest energy efficiency class (scale from G to A+++)
- > **Class 6 NOx**: already in line with the ErP regulation since 26.09.2018 (NOx emissions < 56mg/kWh)
- > **MC²**: Multi **C**ombustion **C**ontrol, new combustion system with patented gas-adaptive technology of industrial origin for better adaptability of use as the conditions according to the variations of the gas mains (e.g. fluctuations or reduced pressure)
- > **MLR**: Methane **L**P**G** Ready, via a simple configuration, the boiler can operate both with methane and LPG without using additional conversion kits
- > Exclusive **exchanger-burner system with self-cooled door** (without insulation): it simplifies maintenance and reduces its cost thanks to a smaller amount of parts subject to deterioration
- > **Instant production** of domestic hot water with dedicated domestic plate exchanger
- > **Hydraulic couplings** covered by the boiler casing
- > Large **backlit multifunctional graphic display** to set the parameters easily and correctly
- > **Bypass circuit** factory built
- > **Particularly suitable for operation in flues that required 'heavy-duty' pipe installation thanks to the type-approval for operation with flue outlets with a 50mm diameter**
- > **FPS**: Flue **P**rotection **S**ystem. The flue check valve installed as standard on the boiler allows for easy connection to collective pressure flue systems (e.g. in redevelopment projects), in accordance with UNI 7129
- > Designed to **simplify and make normal maintenance and cleaning steps** easier
- > **Designed to be used with solar systems**: designed for the production of domestic hot water combined with solar panel systems
- > **ECO function** in domestic mode for greater savings when hot water is rarely used
- > **3-star certified comfort** with domestic hot water production in accordance with EN 13203
- > **Sliding temperature control** with optional external probe
- > **Low-consumption modulating pump (ErP Ready – Class A)**
- > **Digital flame control** with three ignition attempts in the event of operation block if no flame is detected (only for natural gas-based operation)
- > **Installation site**: also outdoors in a partially protected area up to -5°C as standard and up to -15°C with the support of the optional antifreeze resistor kit

THE PRODUCT IN A NUTSHELL



Exclusive built-in heat cell by Ferroli, "Thermobalance"TM



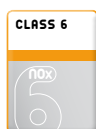
Type-approval for operation with flue outlet with a 50 mm diameter



FPS: Flue Protection System. The smoke check valve allows for easy connection to collective pressure flue systems (e.g. in redevelopment projects), in accordance with UNI 7129



MC²: Multi **C**ombustion **C**ontrol, a new combustion system with patented gas-adaptive technology



Minimal polluting emissions (**class 6 according to EN 15502-1**) already in line with the ErP regulation since 26.09.2018 (NOx emissions < 56mg/kWh)



Operation in a **partially protected area** with a minimum temperature of **-5°C as standard** and, if fitted with the designated antifreeze kit, up to **-15°C**



Appliance that can be used with **preheating** systems for **domestic hot water**



Appliance that works with **climatic adjustment** at a sliding system temperature (optional external temperature probe)



Appliance specifically designed to feature a **particularly simple** installation and maintenance



Maximum **domestic comfort** certified with 3 stars (EN 13203)



MLR:Methane **L**P**G** Ready, via a simple configuration, the boiler can operate both with methane and LPG without using additional conversion kits



It reaches a seasonal efficiency level to heat a room that is among the highest of its range: η_s **94%**



Remote control of the boiler parameters via the remote control (ROMEOP)



You can **delay the boiler switch-on** by activating it only if domestic hot water is actually used



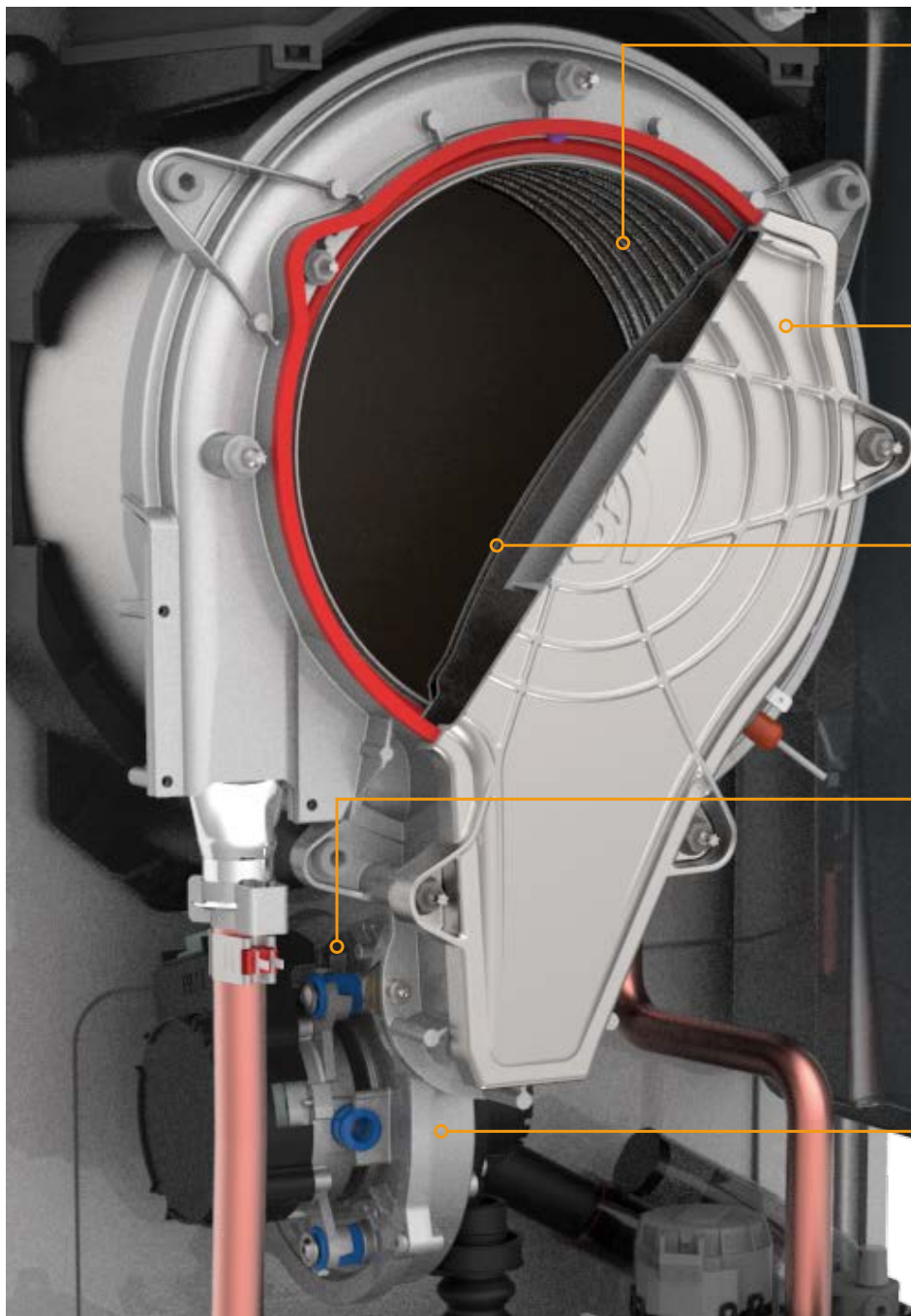
TECH RRT

Inside view

INNOVATIVE THERMOBALANCE™ HEATING UNIT BY FERROLI IN ITS 5 ELEMENTS



Ferrolì focused the design of the heat cell and exchanger of BLUEHELIX TECH RRT in order to maximise the operating benefits and sound design, along with the easy maintenance: the single-circuit design ensures that any air bubbles of the system do not remain trapped in the exchanger and makes cleaning with the mechanical wash as easy as possible, unlike coil exchangers with a double parallel circuit (more common), in which if just one of the circuits becomes clogged the chemical wash is much more difficult.



EXCHANGER

1

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

BURNER DOOR

2

Self-cooled burner door without insulation panel

BURNER

3

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

GAS-ADAPTIVE

4

Smart “**gas-adaptive**” system derived from industrial boilers that monitors and self-adapts combustion parameters as the gas / flue conditions vary

FAN

5

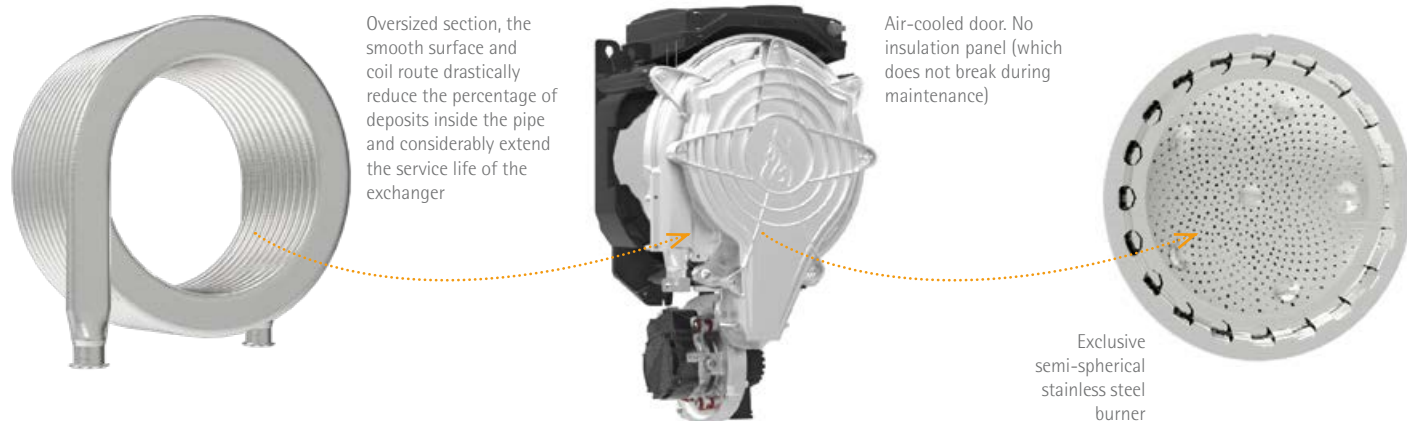
Bottom mounted fan, to facilitate **maintenance on the heating unit without disassembly**. **Built-in flue check valve** for the collective flue chimneys connection



THE CORE

Combustion chamber

The pipe forming the BLUEHELIX TECH RRT exchanger is made with **stainless steel**, a material that allows for the creation of an **extremely smooth** surface, i.e. less prone to attacks from encrusting agents and deposits.



EXTREMELY QUIET

The new design for comfort



The particularly fine design of BLUEHELIX TECH RRT allows it to reach significant values in terms of silence levels and acoustic comfort – to the point that one almost struggles to distinguish the background noise in a house from the noise produced by the boiler when it is fully operational.

Also the boiler switch-on/off transistors have been optimised according to acoustic comfort, which saves the customer the inconvenience of having to understand whether the boiler is on or off, given its quiet operation, as in the old boiler generation.

Our R&D department also took care of aesthetics by creating a valuable casing with 3 removable parts, which covers and hides the pipe couplings.



REMOTE CONTROL

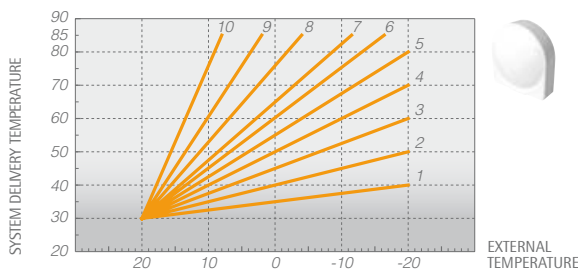
Ambient and climatic



BLUEHELIX TECH RRT can be combined with a wide range of remote controls that allow for remote control and operation of the appliance. The ROMEO series consists up of a number of models, with weekly or daily comfort programming and with the option for both of selecting a wired or wireless connection.

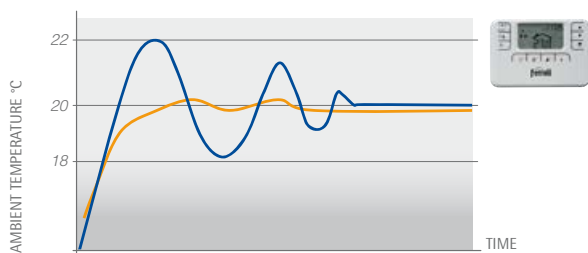


A+ SYSTEM ENERGY CLASS (scale from G to A+++)
combined with the external probe and the remote control



EXTERNAL CLIMATIC COMPENSATION

With the connection to the external probe, BLUEHELIX TECH RRT can vary the **system temperature depending on the outdoor temperature** measured according to configurable climatic curves, thereby guaranteeing greater comfort for the user as the outdoor climatic conditions change. This feature is inside the boiler's electronic board and therefore **does not require remote control**, making configuration operations simpler in case of a replacement.



EXTERNAL AMBIENT COMPENSATION

ROMEO's modulating function allows for a **power modulation** of the boiler as the set **room temperature value** is reached. This improves the quality of comfort by eliminating heat peaks, which results in energy savings.

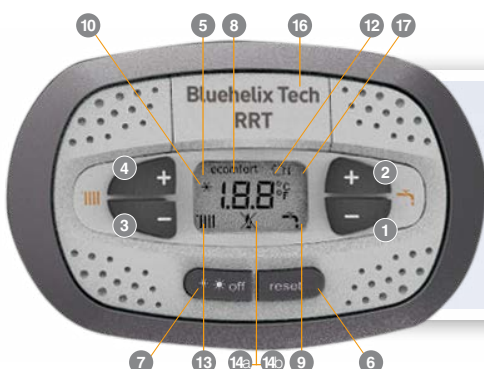
WITH REMOTE ROMEO TIMER

WITH NON-MODULATING AMBIENT THERMOSTAT

BOILER CONTROL

Control panel and features

The control electronics allows the user to customise the operation of the appliance to manage **the level of comfort in the room as required**. The control keypad and the simple LCD display make it extremely easy and intuitive to program hot water production for both sanitary and heating purposes. Thanks to the remote bus connection, this can also be performed directly from the remote Romeo control. The board is protected by a fuse that can be easily accessed thanks to the dedicated door and the electrical connections have a large sturdy box with easy-access connectors and numerous cable tie clips. The boiler is also designed to connect **a second ambient thermostat** on the dedicated terminals to control multi-area mixing systems.



1-2 Key to decrease/increase the domestic hot water temperature setting **3-4** Key to decrease/increase the heating system temperature setting **5** Display **6** Reset button-"Sliding Temperature" menu **7** "Winter", "Summer", "Appliance OFF", "ECO", "COMFORT" mode selection key **8** Eco (Economy) or Comfort mode indication **9** Domestic function indication **10** Summer mode indication **12** Multifunction indication (flashing with exchanger protection function) **13** Heating function indication **14a** Burner on indication (flashing with calibration function and during self-diagnosis phases) **14b** Icon showing any anomaly that blocked the appliance. To restore the operation of the appliance, press the RESET key (part 6) **16** Service Tool Connection **17** External sensor detected (with optional external probe)



MC²

Multi Combustion Control

The electronics controls the flame ionisation current to ensure **optimum combustion** as the air density or gas quality changes. The relationship between the air/gas ratio (λ) and the flame ionisation signal is used to control the gas air ratio itself and, therefore, combustion. **MC²: Multi Combustion Control**, new combustion system with patented **gas-adaptive** technology of industrial origin for better adaptability of use as the conditions according to the variations of the gas mains (e.g. fluctuations or reduced pressure).



EASY MAINTENANCE

Hassle-free maintenance

When the first maintenance operation is carried, the technician will realise the attention placed on the design of each and every detail to make maintenance easier. Thanks to the maximum accessibility of the main components, the **Thermobalance™** heat cell ensures maintenance can be carried out with the highest precision and speed.



Some examples:

- Internal accessibility is favoured by the **3-piece casing** with removable side panels.
- The electric box of the electronic board can be easily removed from the frame, leaving **free access to internal parts**.
- The **bottom mounted fan in relation to the burner** and placed underneath it, must not be disassembled to access the steel burner-exchanger unit.
- The **burner door** is completely **air-cooled** and therefore does not require an insulation panel, thereby avoiding the risk of damage or breakage during disassembly for the cleaning stage.
- The **burner is removed by just loosening 3 bolts**, leaving free access to the stainless steel exchanger.
- The **extra-overflow exchanger** is designed to withstand very hard water and can be **easily cleaned** thanks to the manifold-free single-pipe circuit.
- The domestic water **inlet filter** can be easily **extracted** from the inside **without having to remove the hydraulic connections** of the boiler.
- The disassembly and **replacement of the plate exchanger, if required**, can only take place **by removing two allen bolts** that can be accessed from the front.

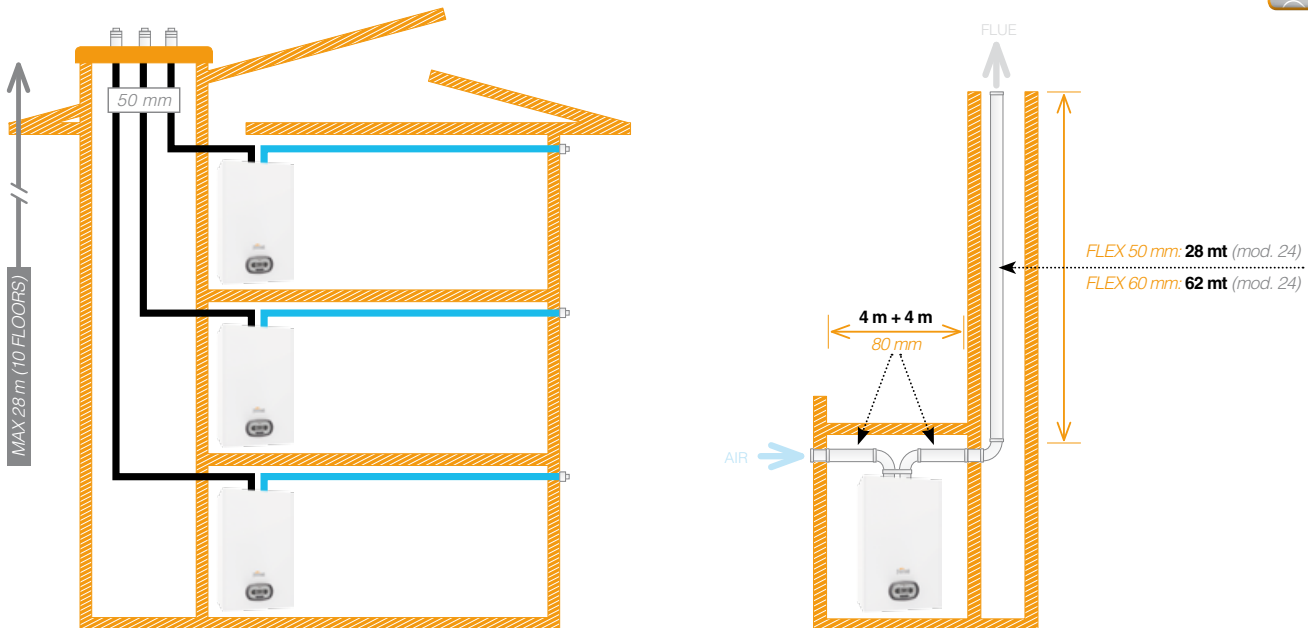


SIMPLIFIED REPLACEMENT

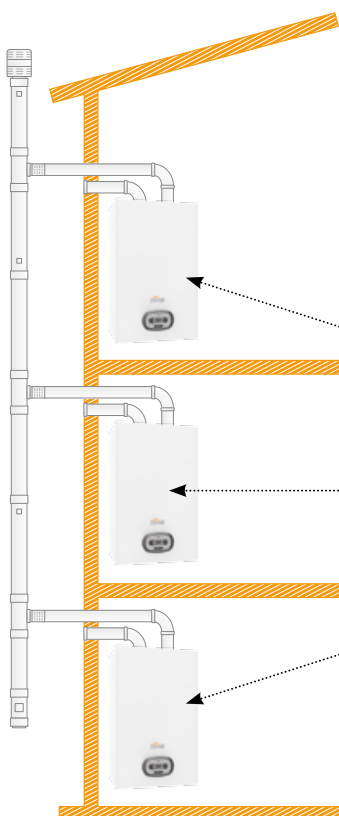
Flue outlet \varnothing 50 mm

The new boiler can also be installed with flue ducts featuring a 50 mm diameter.

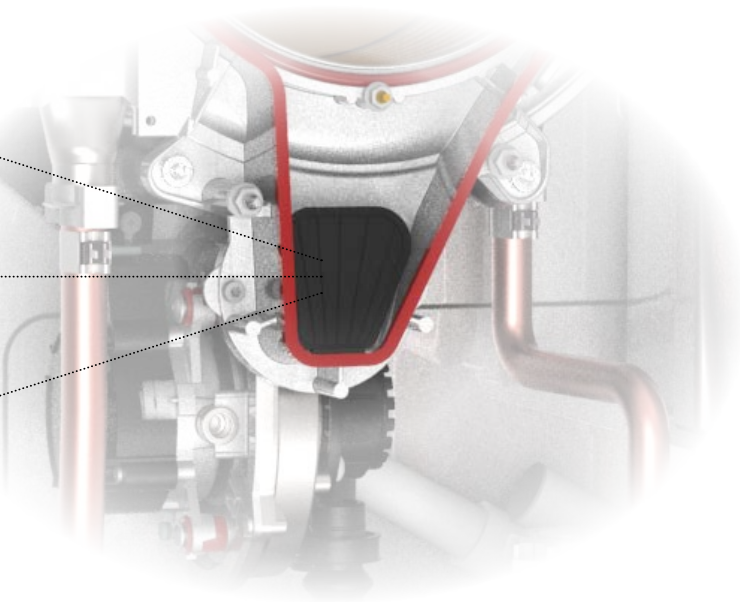
Particularly important on the market of replacements **in the frequent case of collective flues requiring 'heavy-duty' pipe installation where a high smoke discharge capacity is required, even with reduced diameters.**



Collective pressure appliances



FPS: Flue Protection System. The flue check valve (installed as standard) allows for **easy connection to collective pressure flue systems** (e.g. in redevelopment projects). **The collective pressure flue solution is more cost-effective** for installers (smaller chimney diameters).





COMFORT AND SAFETY

Features

Design engineers have conceived a number of features to ensure the quality of domestic water, the best power output to the heating system combined with a longer life service of the appliance.

STOP AND GO FEATURE

The use of mixing taps for short or very short periods of time for quick rinses involves starting the boiler start-up procedure, which usually ends immediately. The persistence of these **"false starts"** can, in the long run, affect the average service life of the product. This is why BLUEHELIX TECH RRT provides an electronic parameter through which it is possible to delay the ignition of the burner (Stop and Go) by only activating it if domestic hot water is actually used.



SUN EASY FEATURE

BLUEHELIX TECH RRT has been designed to be easily inserted into systems built with the latest technology. The SUN EASY system uses an electronics that **simplifies the combination with solar panels**, both with natural and forced ventilation. Through a sensor placed on the domestic circuit, the temperature of water preheated by the solar panels is constantly controlled and the burner is switched on only if the latter is lower than the level required to guarantee optimum comfort for the user.



DOMESTIC ECO-COMFORT FEATURE

In ECO mode, the production of domestic hot water is carried out according to traditional standards, allowing for energy savings when it is not used. In COMFORT mode, thanks to the special temperature maintenance system of the heat exchanger, **the domestic hot water supply becomes even faster and more convenient**. The highest level of comfort, certified with 3 stars (EN 13203), is reached. The efficiency and loading profiles comply with the ErP regulation and at the top of their range: **mod. 24 C - 28 C / A - XL | mod. 34 C / A - XXL**



OUTDOOR INSTALLATION - ANTIFREEZE FUNCTION

To make the most of the available space, the new BLUEHELIX TECH RRT 24C boiler can be fitted in the wall thanks to a dedicated kit. For more critical installations, in fully uncovered areas with no protection from the elements, there is also the "painted unit" kit. If the boiler temperature drops to 5°C, the burner automatically switches on and the circulating pump is activated in order to **preserve the appliance from damage caused by frost**. This function is active with the boiler fed by the gas circuit and connected to the mains.

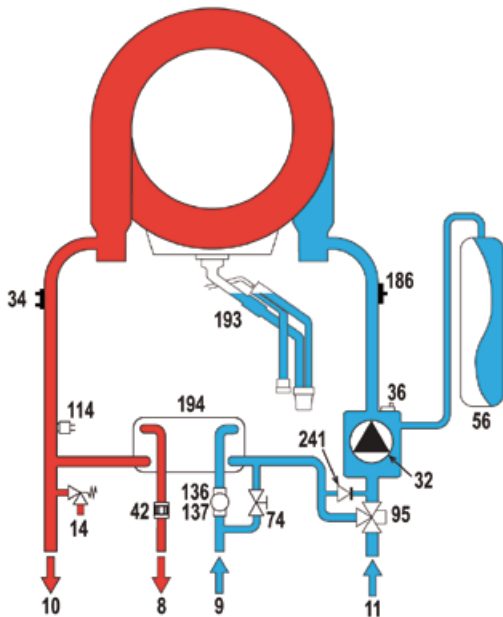


RECESSED CASING KIT	WALL UNIT KIT
FOR OUTDOOR USE IN A PARTIALLY PROTECTED AREA UP TO -10°C/-15°C	FOR OUTDOOR USE IN A FULLY UNCOVERED AREA UP TO -10°C/-15°C

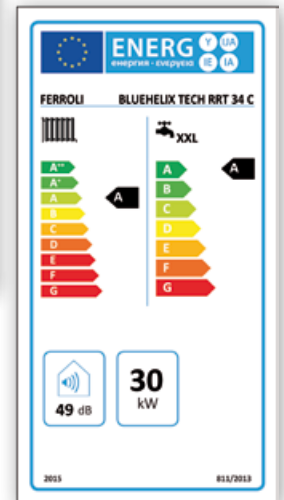
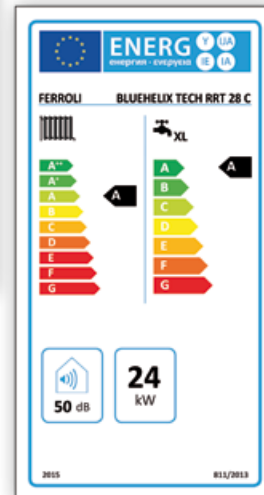
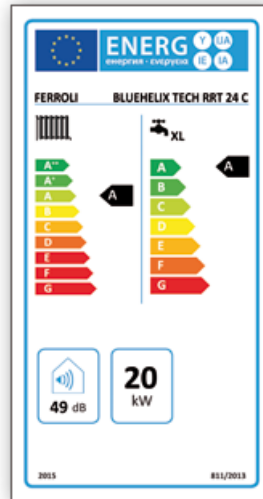


CHARACTERISTICS

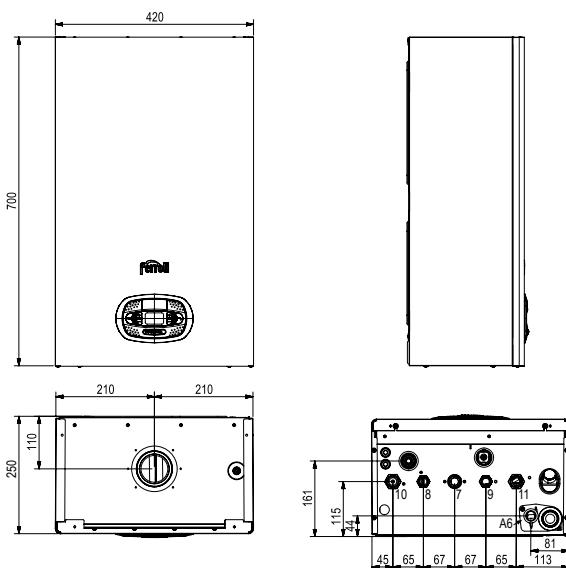
Hydraulics – Energy label – Size



KEY 8 Domestic water outlet **9** Domestic water inlet
10 System supply **11** System return **14** Safety valve **32** Heating circulating pump **34** Heating temperature sensor
36 Automatic air vent **42** Domestic hot water temperature sensor **56** Expansion vessel **74** System filling valve **95** Diverter valve **114** Water pressure switch **136** Flowmeter
137 Pressure probe **186** Return sensor **193** Siphon **194** Domestic hot water exchanger **241** Automatic bypass



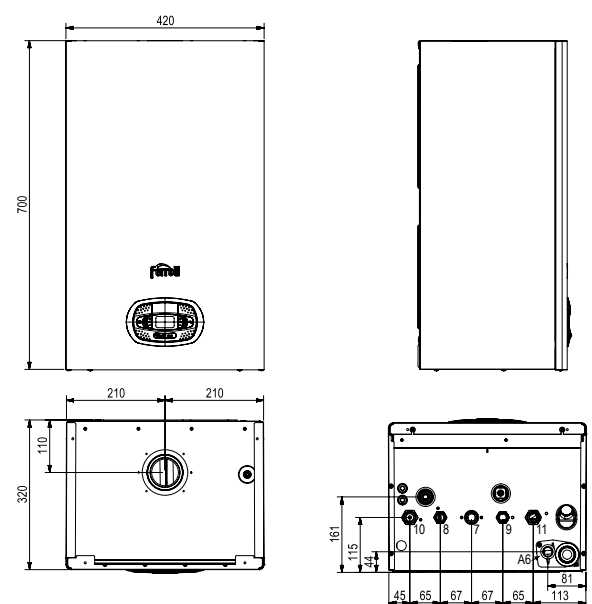
BLUEHELIX TECH RRT 24 C - 28 C



Top view

Bottom view

BLUEHELIX TECH RRT 34 C



Top view

Bottom view

KEY 7 3/4" gas inlet **8** 1/2" domestic hot water outlet **9** 1/2" domestic hot water inlet **10** 3/4" system supply **11** 3/4" system return **A6** condensation discharge coupling



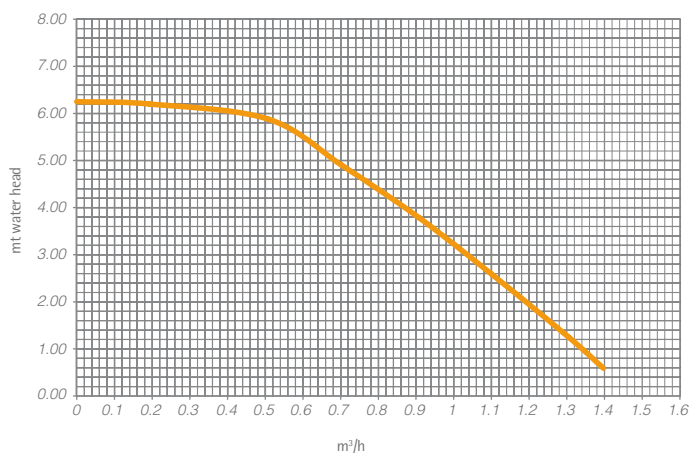
SPECIFICATIONS

Summary table – Available circulation head

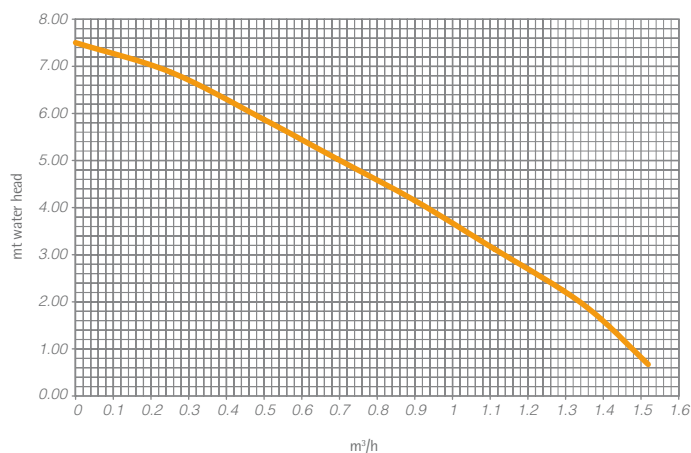
BLUEHELIX TECH RRT			24 C	28 C	34 C
ERP class		(Class G – A++)			
		(Class G - A)			
Max / min thermal input flow rate in heating mode (Hs)	kW		20.4 / 5	24.5 / 5	30.6 / 6.4
Max / min thermal output power in heating mode (80/60°C)	kW		20 / 4.9	24 / 4.9	30 / 6.3
Max / min thermal output power in heating mode (50/30°C)	kW		21.7 / 5.4	26 / 5.4	32.5 / 6.9
Max domestic hot water thermal flow rate (Hi)	kW		25	28.5	34.7
Min domestic hot water thermal flow rate (Hi)	kW		5	5	6.4
Max / min domestic thermal power	kW		24.5 / 4.9	28 / 4.9	34.0 / 6.3
Max P output (80-60°C) (Hi) efficiency	%		98.1	98.1	98
Min P output (80-60°C) (Hi) efficiency	%		97.8	98	97.8
Max P output (50-30°C) (Hi) efficiency	%		106.1	106.1	106.1
Min P output (50-30°C) (Hi) efficiency	%		107.5	107.5	107.5
Output 30% efficiency	%		109.7	109.7	109.5
G20 supply gas pressure	mbar		20	20	20
G20 max gas flow rate	m³/h		2.65	3.02	3.67
G20 min gas flow rate	m³/h		0.53	0.53	0.68
G20 max / min CO ₂	%		9±0.8	9±0.8	9±0.8
G31 supply gas pressure	mbar		37	37	37
G31 max / min gas flow rate	kg/h		1.94 / 0.39	2.21 / 0.39	2.70 / 0.50
G31 max / min CO ₂	%		10±0.8	10±0.8	10±0.8
NOx emission class (EN 15502-1)	-		6	6	6
Max operating pressure in heating mode	10 bar		3	3	3
Min operating pressure in heating mode	10 bar		0.8	0.8	0.8
Max heating temperature	°C		95	90	95
Heating water content	litres		3.4	2.9	4.2
Expansion vessel capacity	litres		8	8	10
Expansion vessel preload pressure	10 bar		0.8	0.8	0.8
Max domestic hot water operating pressure	10 bar		9	9	9
Min domestic hot water operating pressure	10 bar		0.3	0.3	0.3
Domestic flow rate Δt 25°C	l/min		14	16.1	19.5
Domestic flow rate Δt 30°C	l/min		11.7	13.4	16.2
Electrical protection rating (IEC 60529)	IP		X5D	X5D	X5D
Supply voltage	V/Hz		230V / 50Hz	230V / 50Hz	230V / 50Hz
Absorbed electric power	W		73	82	99
Weight (empty)	kg		28	28	32

AVAILABLE CIRCULATION HEAD FOR THE SYSTEM

BLUEHELIX TECH RRT 24 C - 28 C



BLUEHELIX TECH RRT 34 C





NOTICE FOR SALES AGENTS:

In 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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