ferroli

H2
HYDROGEN
PLUG-IN

kiwa
a p p r o v e d

**UK WATER
REGULATION 4**

7
YEAR
WARRANTY

Bluehelix HiTech RRT

Wall hung condensing boilers with instantaneous domestic hot water production

BLUEHELIX HITECH RRT...
HITECH IN EVERY SENSE
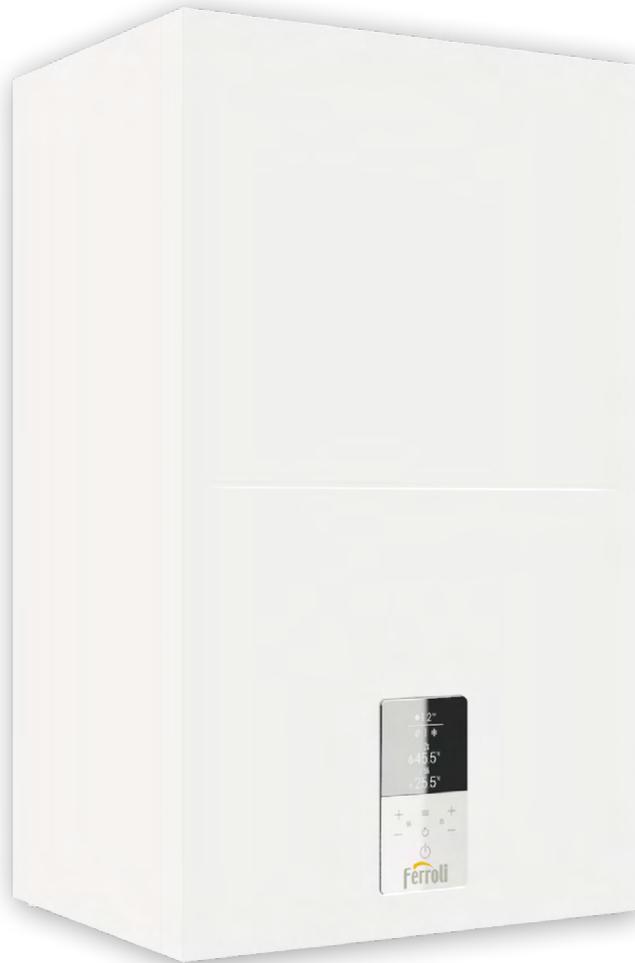
The smart new user interface with **'CapSense' touch screen technology** and large 2.8" graphic display allows for easy navigation and simple boiler control.

The seasonal space heating energy efficiency rating (η_s 94%) is one of the highest in this category (Class A ErP, scale from G to A++). The BLUEHELIX HITECH RRT can easily adapt to the load conditions thanks to the **broad modulating range,** reaching ratios of up to 1:10 (34 C), 1:9 (28 C) and 1:7 (24 C).

The innovative **hydrogen plug-in** system means the BLUEHELIX HITECH RRT is capable of self-adjusting to operate with natural gas and hydrogen mixtures, allowing users to be prepared for the future of environmentally-friendly hydrogen-powered heating.

Designed to meet the criteria of a robust product in every respect, the **high-pass primary heat exchanger** guarantees maximum efficiency and long-lasting reliability.

THE RANGE
Models operating with both natural gas and LPG

| C	24 C	28 C	34 C
	DHW FLOW RATE	DHW FLOW RATE	DHW FLOW RATE
	(14 l/min at Δt 25℃)	(16.1 l/min at Δt 25℃)	(19 l/min at Δt 25℃)

7 year warranty as standard

The Bluehelix HiTech RRT comes with a valuable 7 year manufacturer's parts and labour warranty, provided it is fitted with a high performance magnetic filter and is serviced annually.*

*Warranty terms and conditions can be downloaded at **https://www.installersmate.com/wp-content/uploads/2019/05/Ferroli-UK-Warranty-TCs.pdf**

AS SILENT AS CAN BE
For maximum comfort at home

The meticulous design of the BLUEHELIX HITECH RRT has achieved significant values in terms of **silence and acoustic comfort**, making it almost impossible to distinguish the noise of the boiler during normal operation from the background noise of a home.

The **on/off transistors have also been optimised to operate so quietly** that it is hard to tell from the sound level whether the boiler is on or off.

It's also **aesthetically pleasing**, with a new user-friendly 3-piece removable casing that extends to cover the pipe connections.

BLUEHELIX HITECH RRT
Component view

EXCHANGER

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

BURNER

Unique **stainless steel semispherical burner** with long-life gasket

BURNER DOOR

Self-cooling burner door without insulating panel

GAS ADAPTIVE

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

FAN

Offset fan to allow access to the combustion chamber of the heat exchanger without having to remove the fan assembly, facilitated by the **built-in flue gas backflow valve**

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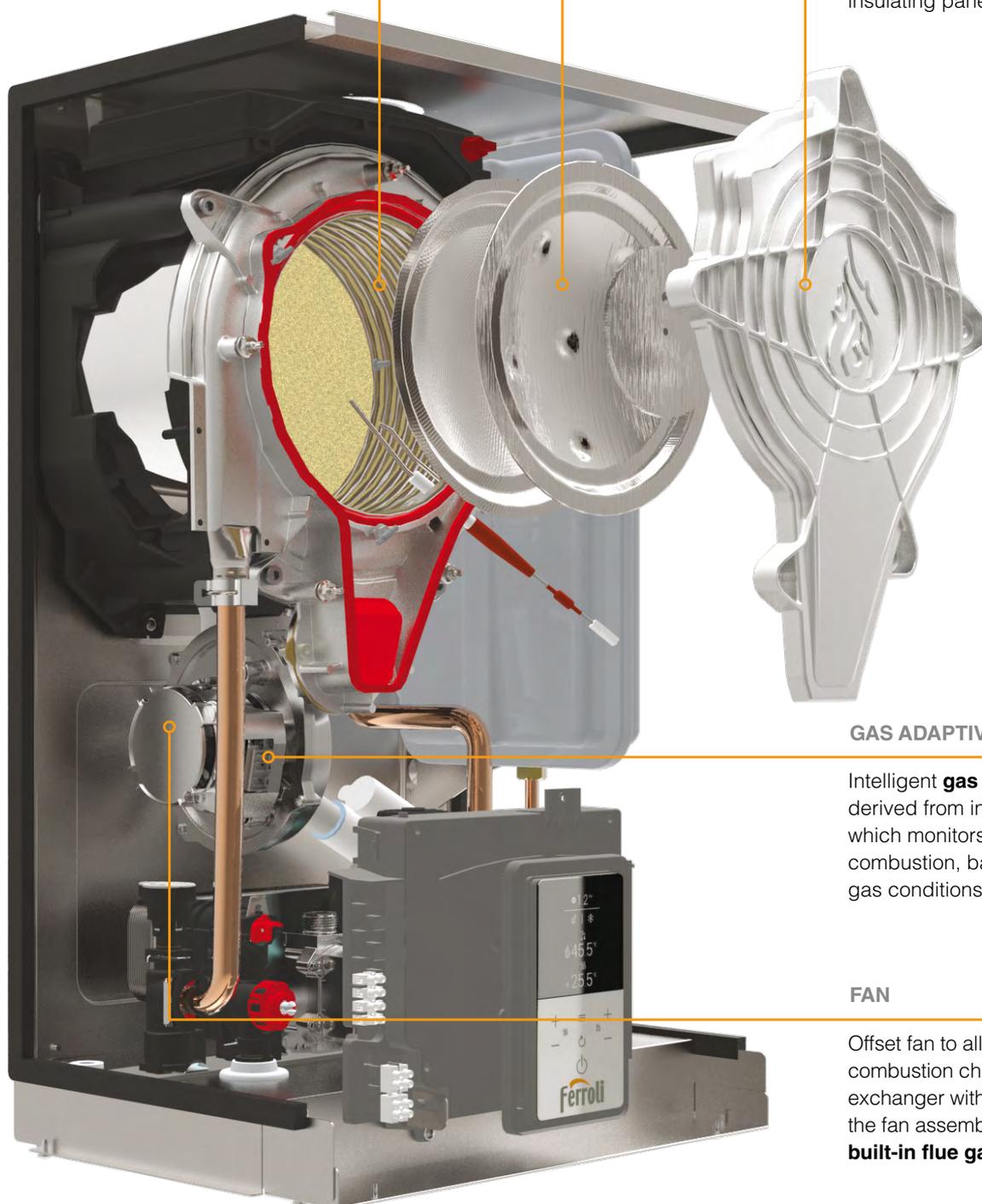
CHARACTERISTICS
Product benefits

> High thickness **stainless steel primary heat exchanger** with large passes to guarantee long life, reduced maintenance and high efficiency, even on existing heating systems

> **Class 6 NOx:** compliant with the latest ErP directive of 26.08.2019 (NOx emissions < 56mg/kWh)

> **MC²: Multi Combustion Control**, a new combustion system with industrial-derived gas adaptive patented technology that automatically adapts the level of combustion as the flue or gas conditions change

> **MGR: Multi Gas Ready.** With a simple configuration the boiler can run on natural gas or LPG without using additional conversion kits

> Unique exchanger-burner system with **self-cooling door**. Less consumable parts simplifies maintenance and lowers costs

> **Instantaneous production** of domestic hot water with a dedicated DHW plate exchanger

> **Hydraulic fittings** covered by the boiler casing

> Large multi-purpose **backlit graphic display** allows for parameters to be set easily and correctly

> **Boiler bypass only** (would still need system bypass if required by building regulations)

> The boiler easily adapts to the load conditions thanks to the **broad modulating range** which can reach ratios of up to 1:10 (34 C), 1:9 (28 C) and 1:7 (24 C)

> **FPS: Flue Gas Protection System.** The flue gas check valve offers easy connection to pressurised collective flue systems, in accordance with regulation UNI 7129

> Designed to **simplify routine servicing and maintenance** procedures

> **Solar system set-up** allows for the production of domestic hot water using solar panel systems

> **ECO function** in DHW mode for more savings when only short bursts of hot water are being used

> **Digital flame control** with three ignition attempts if operation is blocked due to failed flame detection (only in natural gas mode)

KEY FEATURES

THERMO BALANCE
Unique integrated Ferroli **Thermobalance™** thermal unit

H2 HYDROGEN PLUG-IN
Compatible with **natural gas mixtures enriched with hydrogen*** (not operational in the UK at time of going to print)
(* mixtures of natural gas/hydrogen 80%/20% currently available in Europe)

STOP AND GO
Burner ignition can be delayed by starting up only when domestic hot water is actually drawn

RANGE 1 : 10
Modulating ratio between **Pmax** and **Pmin**

COLLECTIVE PRESSURISED / FPS
FPS: Flue Gas Protection System. The flue gas check valve can be easily connected to approved pressurised collective flue systems (e.g. in redevelopment projects)

MULTI COMB. CONTROL / m C²
MC2: Multi Combustion Control, a new combustion system with patented gas adaptive technology

EXCHANGER STAINLESS STEEL
Stainless steel high-performance mono-thermal primary heat exchanger
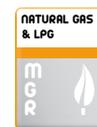
NATURAL GAS & LPG / MGR
MGR: Multi Gas Ready. With a simple configuration the boiler can run on natural gas or LPG without using additional conversion kits

MODE / SUN EASY
The appliance can be combined with **preheating systems** for domestic hot water

CLIMATIC
Appliance capable of operating with **climatic control** and sliding system temperature (optional outdoor temperature probe)

EASY MAINTENANCE
Designed specifically to offer **particularly simple installation and maintenance**

ETAs 94%
Reaches one of the **highest seasonal space heating efficiencies** in its category (η_s 94%)

BOILER CONTROL
Control board and functions

easy
E A S Y . . .

It's quick and easy to achieve optimum comfort thanks to the smart new user interface with **'CapSense' touch screen technology** and large 2.8" graphic display.

The boiler is also designed to deliver even greater comfort by connecting to a second room thermostat for **multi-zone heating control**.

EASY
CONTROL

HEAT ENGINE
Combustion chamber

The stainless steel water section of the heat exchanger in the BLUEHELIX HITECH RRT ensures an extremely smooth surface that significantly reduces the problem of scaling and deposits.

The increased extra section, smooth surface and coil section drastically reduce the amount of deposits inside the pipe and considerably increase the service life of the heat exchanger
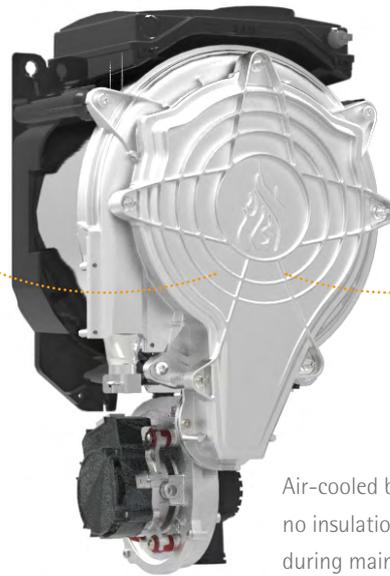
Air-cooled burner door requiring no insulation panel (will not break during maintenance)

Unique hemispherical stainless steel burner

DESIGNED FOR OPTIMUM EFFICIENCY

The patented stainless steel heat exchanger of the **THERMOBALANCE™** thermal unit used in the BLUEHELIX HITECH RRT (fig. A) can be compared to the most traditional and widely used steel heat exchanger (fig. B).
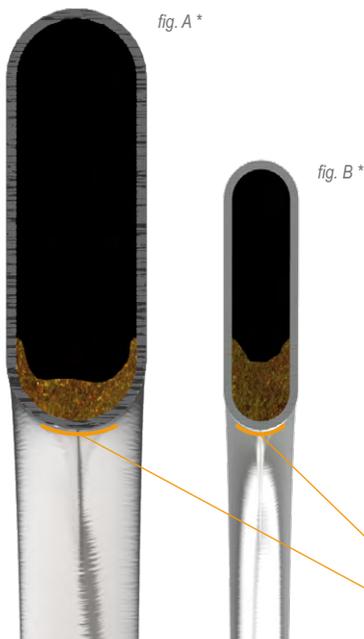
This design enables the heat exchanger to work at maximum efficiency, even in partially clogged conditions. With the same amount of deposits and sediment (e.g. due to installation on old systems), the heat exchanger in fig. B tends to get clogged more quickly in the part in contact with the flame as a result of the reduced fluid flow area, where a barrier of deposits* forms, obstructing the heat exchanger and reducing the efficiency to below nominal values.

DURABLE AND RELIABLE

Ferroli's Thermobalance™ heat exchanger has better insulation and wider waterways than standard heating systems, helping to maintain higher efficiency levels and reduce maintenance, even on older systems.

*fig. A ***

*fig. B ***

* 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 showing immediate heat contact surface area

MC²
Multi Combustion Control

MC²: Multi Combustion Control is a new combustion system with **gas adaptive** patented technology that automatically adapts the level of combustion as the flue or gas conditions change. This is controlled by the flame ionisation current to ensure **perfect combustion** according to the change in air density or gas quality. The ratio between the air/gas flow (λ) and the flame ionisation detection electrode is used to automatically adjust the air-gas ratio and, therefore, combustion.

MULTI COMB.
CONTROL

m C²
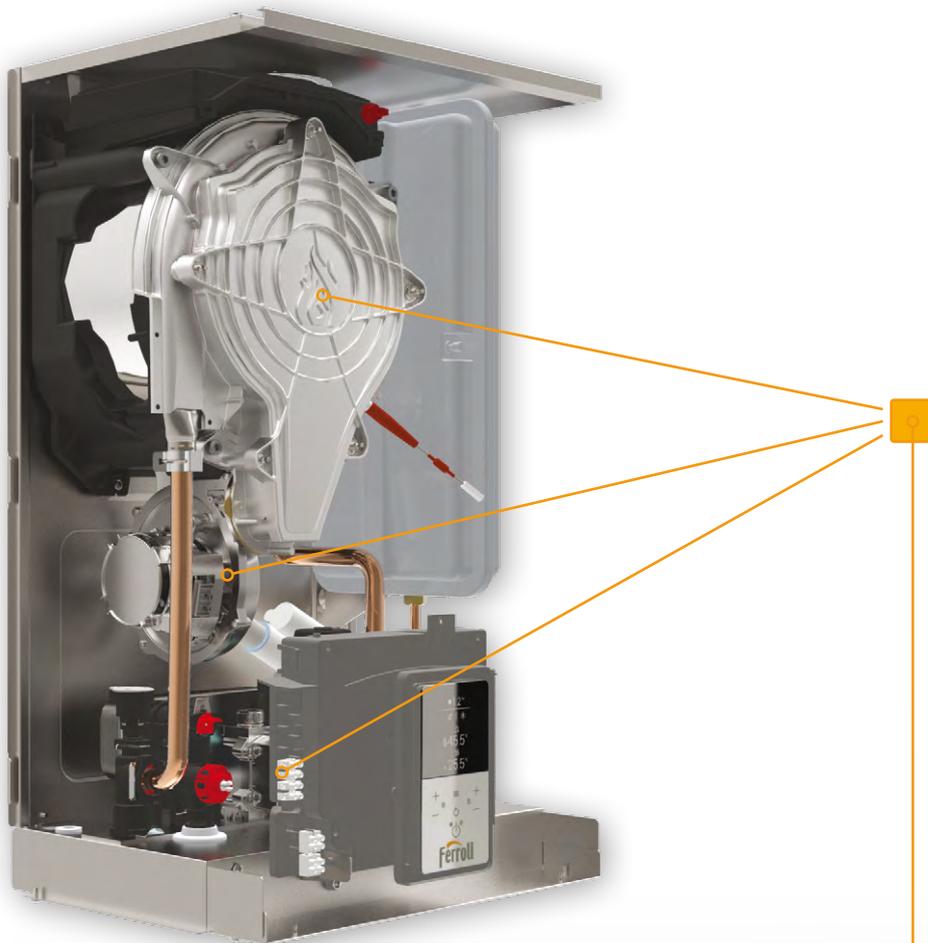
EASY MAINTENANCE

When servicing the boiler for the first time, engineers will appreciate the care with which each part has been designed in order to make their work straightforward and hassle-free.

- All main components can be easily accessed by removing the **3-piece casing.**

- 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 removal is not necessary in order to access the burner and heat exchanger assembly.

- The **burner door is fully air-cooled** and does not require an insulating panel, which avoids the risk of it being damaged during cleaning.

- The burner is removed by **unscrewing only three bolts**, giving free access to the stainless steel heat exchanger.

- The high-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 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 two hex bolts that can be accessed from the front.

- Easy access to the **external wiring connections** without having to lower the front panel.

SIMPLIFIED BOILER REPLACEMENT
Ideal for approved collective flue systems

FPS: Flue Gas Protection System. The flue gas check valve (installed as standard) offers **easy connection to pressurised collective flue systems** (e.g. in redevelopment projects). The collective pressurised flue solution is more cost-effective for installers working with smaller diameter chimneys.

COLLECTIVE PRESSURISED

F
P
S
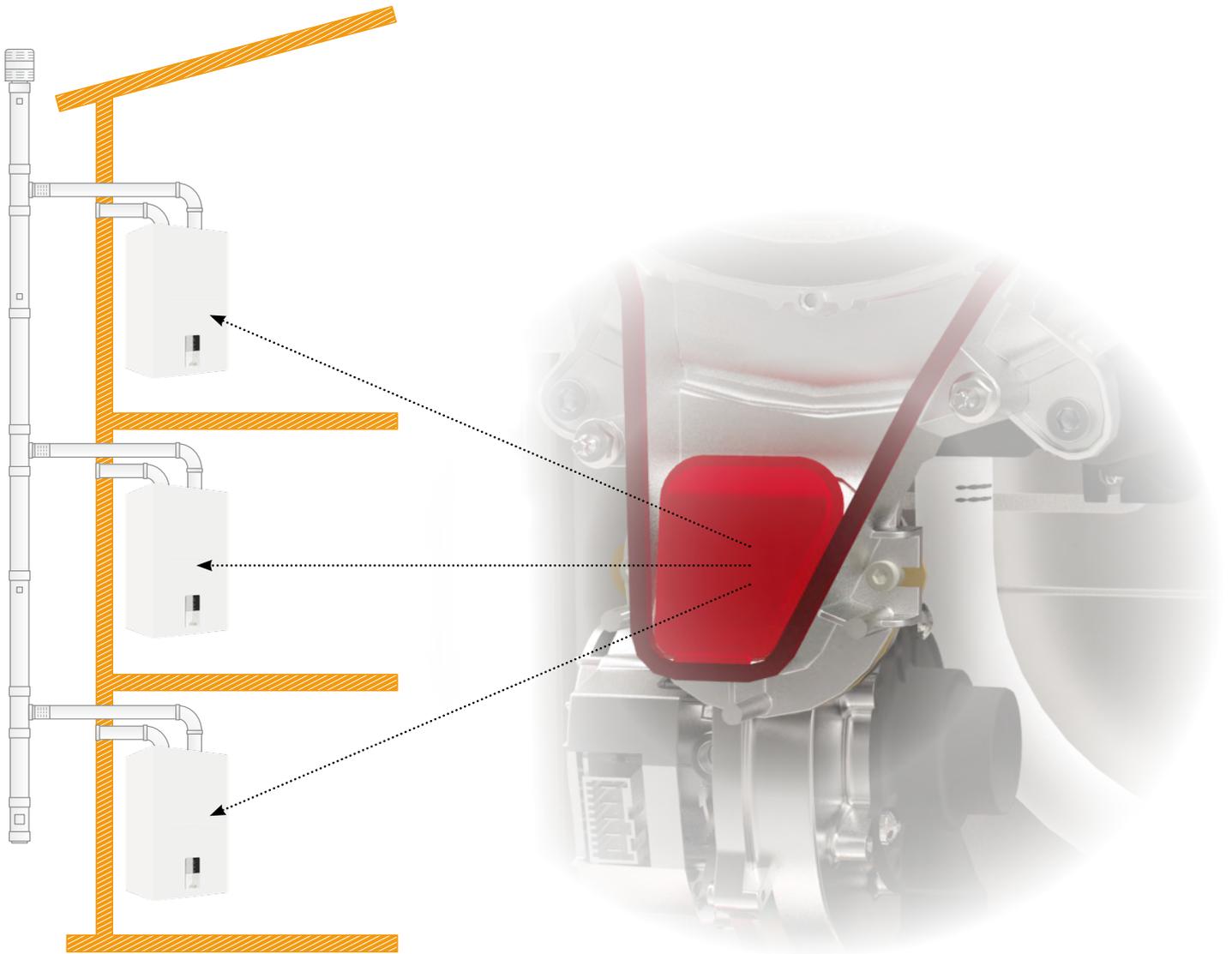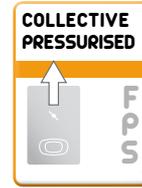
NEW FERROLI TECHNOLOGY

The right choice for you

RANGE

1 : 10

H2
HYDROGEN
PLUG-IN

THERMO
BALANCE

BLUEHELIX HITECH RRT
24 C - 28 C - 34 C

COMFORT AND SAFETY
Functions

STOP AND GO

Using mixer taps for very short bursts causes the boiler ignition procedure to start up, which usually ends immediately. Over time, these false starts can affect the average service life of the product. To prevent this, the BLUEHELIX HITECH RRT has been equipped with **'Stop and Go'**, an electronic parameter that **delays burner ignition** so that it only activates if hot water is actually used.

SUN EASY

The BLUEHELIX HITECH RRT has been designed to easily integrate into systems built with the latest technology. The **Sun Easy** system is equipped with electronics that **simplify operation with solar panels**, with both natural and forced circulation. A sensor situated on the DHW circuit constantly controls the preheated water temperature from the solar panels, providing burner ignition only if this temperature drops below the level required to ensure optimal user comfort.

DHW ECO-COMFORT

In ECO mode, DHW production is provided in the traditional way and saves energy by not preheating the water. In COMFORT mode, thanks to the special temperature maintenance system of the heat exchanger, **hot water supply is even faster and more convenient**, reaching the maximum certified 3-star comfort. The efficiency and load profiles according to the ErP directive are at the top of the category (**24 C & 28 C** / A - XL | **34 C** / A – XXL).
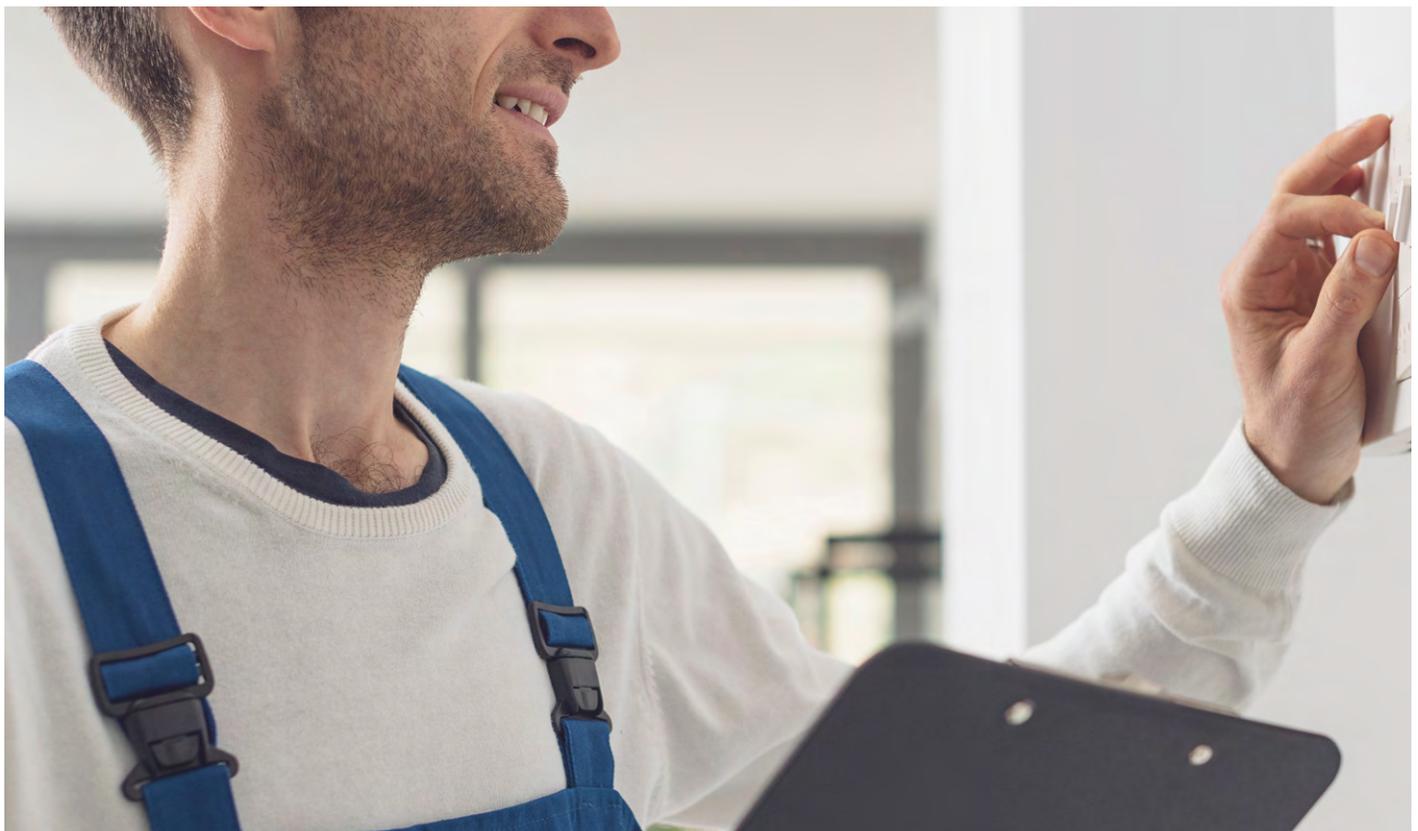
CHARACTERISTICS
Hydraulics
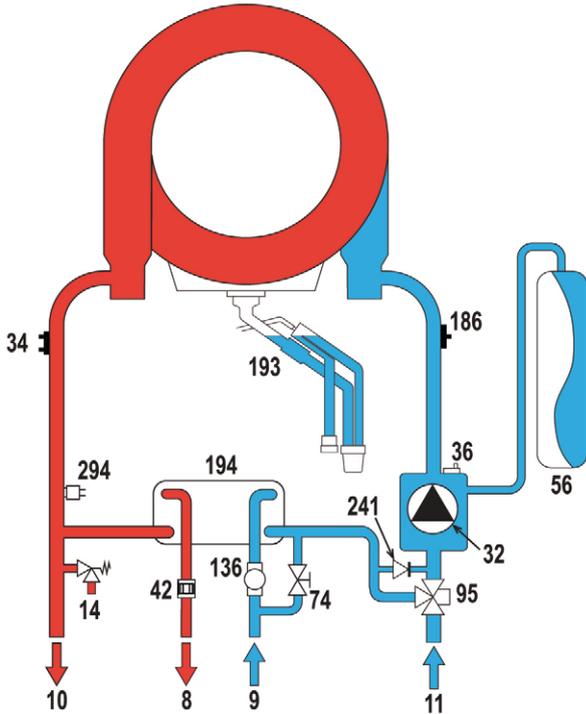
CHARACTERISTICS
Energy labels

24 C

28 C

34 C
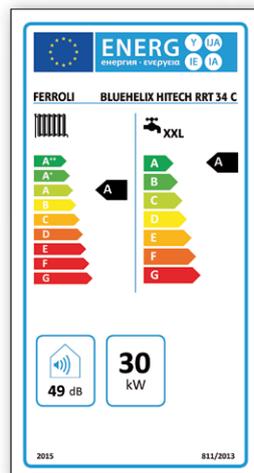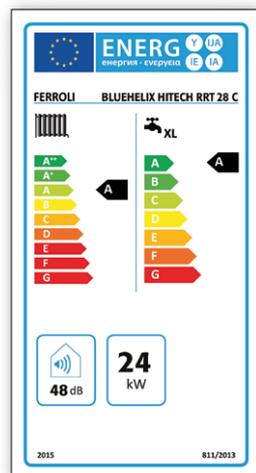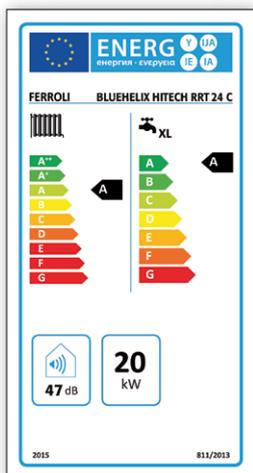
TECHNICAL DATA
Pressure drops/head

BLUEHELIX HITECH RRT 24 / 28 C
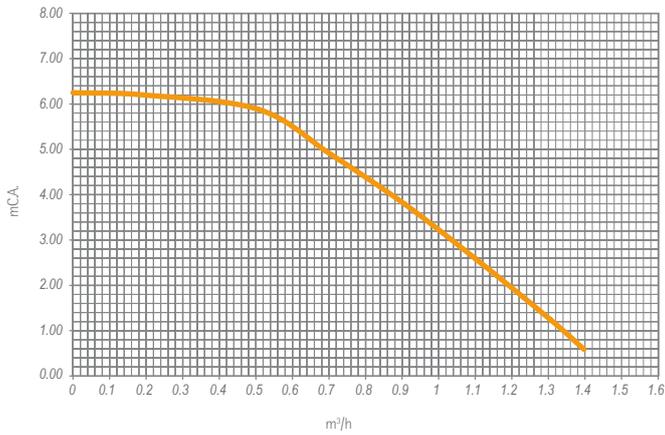
BLUEHELIX HITECH RRT 34 C
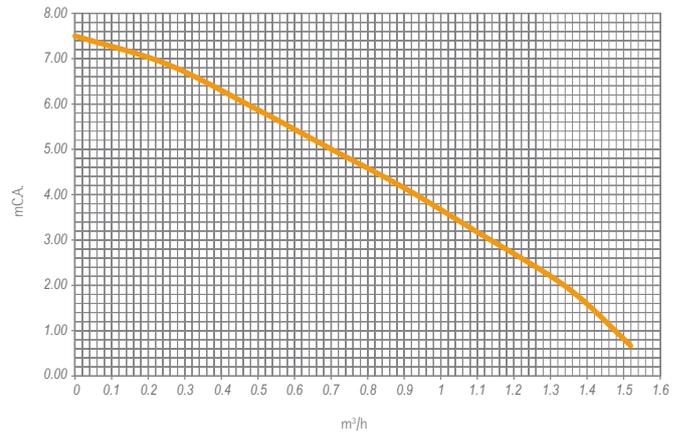
TECHNICAL DATA
Dimensions

BLUEHELIX HITECH RRT 24-28-34 C
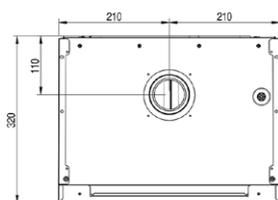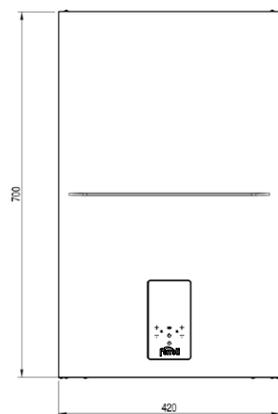
View from above
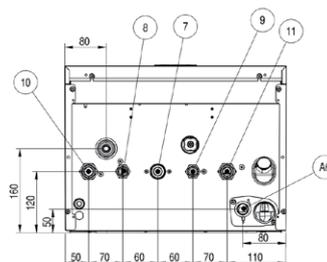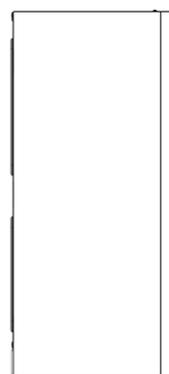
View from below

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

TECHNICAL DATA
Summary table

BLUEHELIX HITECH RRT			24 C	28 C	34 C
ERP Class	(radiator icon)	(Class G - A++)	A	A	A
	(tap icon)	(Class G - A)	XL A	XL A	XXL A
Heating max / min heat input	kW		20.4 / 3.5	24.5 / 3.5	30.6 / 3.5
Heating max / min heat output (80/60°C)	kW		20.0 / 3.4	24.0 / 3.4	30.0 / 3.4
Heating max / min heat output (50/30°C)	kW		21.6 / 3.8	26.0 / 3.8	32.5 / 3.8
DHW max heat input (Hi)	kW		25.0	28.5	34.7
DHW min heat input (Hi)	kW		3.5	3.5	3.5
DHW max / min heat output	kW		24.5 / 3.4	28.0 / 3.4	34.0 / 3.4
Pmax efficiency (80-60°C) (Hi)	%		98.1	98.1	97.9
Pmin efficiency (80-60°C) (Hi)	%		98.0	98.0	98.0
Pmax efficiency (50-30°C) (Hi)	%		106.1	106.1	106.1
Pmin efficiency (50-30°C) (Hi)	%		107.5	107.5	107.5
Efficiency 30%	%		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		0.37	0.37	0.37
CO_2 max / min G20	%		9.4 / 9.2	9.3 / 9.2	9.3 / 9.2
G31 supply gas pressure	mbar		37	37	37
G31 max / min gas flow rate	kg/h		1.94 / 0.27	2.21 / 0.27	2.70 / 0.27
CO_2 max / min G31	%		10.3 / 9.8	10.3 / 9.8	10.3 / 10.0
NO_x emission class (EN 15502-1)	-		6	6	6
Max heating working pressure	bar		3	3	3
Min heating working pressure	bar		0.8	0.8	0.8
Max heating temperature	°C		95	95	95
Heating water content	litres		2.9	2.9	4.3
Heating expansion vessel capacity	litres		8	8	10
Heating expansion vessel preload pressure	bar		0.8	0.8	0.8
DHW max working pressure	bar		9	9	9
DHW min working pressure	bar		0.3	0.3	0.3
DHW flow rate Δt 25°C	l/min		14	16.1	19.5
DHW flow rate Δt 30°C	l/min		11.7	13.4	16.2
Protection rating (IEC 60529)	IP		X4D	X4D	X4D
Supply voltage	V/Hz		230V / 50Hz	230V / 50Hz	230V / 50Hz
Heating absorbed electric power	W		63	70	80
DHW absorbed electric power	W		73	82	99
No-load weight	kg		28	28	32

Ferroli

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