Ferroli

Bluehelix Tech RRT
Condensing Boiler
With Thermobalance™ heat exchanger

ErP
Energy-related Products
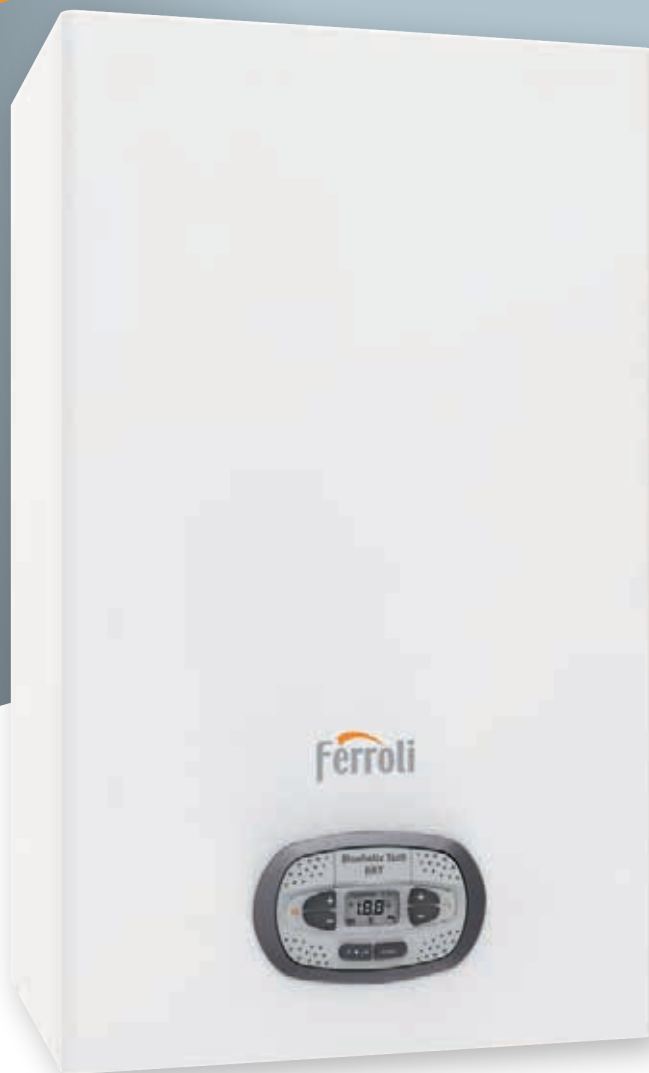
The Bluehelix Tech RRT range conforms fully to the new ErP regulations for Ecodesign, legislation that promotes improved energy efficiency and ensures that the environmental impact of energy products is kept to a minimum.

> THE BLUEHELIX TECH RRT RANGE EFFECTIVE AND ENERGY EFFICIENT

BLUEHELIX TECH RRT 24C > *COMBI (14 l/min at Δt 25°C)*

BLUEHELIX TECH RRT 28C > *COMBI (16 l/min at Δt 25°C)*

BLUEHELIX TECH RRT 34C > *COMBI (19.5 l/min at Δt 25°C)*

BLUEHELIX TECH RRT 18S

BLUEHELIX TECH RRT 24S

BLUEHELIX TECH RRT 30S

Every boiler in the range uses industry-leading technology and the range boasts one of the highest energy efficiency levels for heating (Class A).

> DURABLE AND RELIABLE

Our 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.

The boilers conform to ErP regulations and have minimal NOx emissions of <56mg/kWh (class 6). They're designed for use with solar systems. And they can reach one of the highest seasonal efficiency levels in terms of heating.

EXCLUSIVE BUILT-IN HEAT CELL BY FERROLI, "THERMOBALANCE"™

MC²: MULTI COMBUSTION CONTROL. A NEW COMBUSTION SYSTEM WITH PATENTED GAS-ADAPTIVE TECHNOLOGY

FPS: FLUE PROTECTION SYSTEM. THE FLUE CHECK VALVE ALLOWS FOR EASY CONNECTION TO COLLECTIVE PRESSURE FLUE SYSTEMS

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)

APPLIANCE SPECIFICALLY DESIGNED TO FACILITATE SIMPLE INSTALLATION AND MAINTENANCE.

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)

IT REACHES A SEASONAL EFFICIENCY LEVEL TO HEAT A ROOM THAT IS AMONG THE HIGHEST OF ITS RANGE: ETA$_S$ 94%

YOU CAN DELAY THE BOILER SWITCH-ON BY ACTIVATING IT ONLY IF DOMESTIC HOT WATER IS ACTUALLY USED BY OPENING A TAP OR SHOWER

MLR:METHANE LPG READY, VIA A SIMPLE CONFIGURATION, THE BOILER CAN OPERATE BOTH WITH METHANE AND LPG WITHOUT USING ADDITIONAL CONVERSION KITS

OPENTHERM CONNECTION

MAXIMUM DOMESTIC COMFORT CERTIFIED WITH 3 STARS (EN 13203)

SIGNIFICANTLY QUIETER

Noise is kept to an absolute minimum thanks to the clever design of the Bluehelix Tech RRT range. In fact, you'll barely know it's on even when it's fully operational, unless you take a quick glance at the boiler display.

The casing itself has three removable panels that hide the isolation valves – they're easy to remove and give it a sleeker, better design.

STOP AND GO

> STOP AND GO

When the boiler is fired up for short bursts of time, it can eventually affect the lifespan of the product. With the Bluehelix Tech RRT, the ignition of the burner is delayed electronically – and only activated if domestic hot water is actually used.

FUNCTION
SUN EASY

> SUN EASY

The range has been designed to integrate into systems built using the latest technology. Sun Easy uses electronics that simplify the use of the boiler with solar panels, either with natural or artificially created ventilation. Using a sensor on the domestic circuit, the temperature of water pre-heated by the solar panels remains constant and the burner comes on only if the temperature drops.

DOMESTIC

> DOMESTIC ECO-COMFORT

In ECO mode, water is heated using traditional methods, allowing a certain level of energy efficiency. In COMFORT mode, the temperature maintenance system on the heat exchanger means that the hot water supply becomes faster and more efficient. It will reach the highest level of comfort (3 stars EN 13203) and the efficiency and loading profiles comply with the ErP regulation at the top of their range.
mod. 24 C - 28 C I A- XL 1 mod. 34 C IA- XXL

> COMFORT AND SAFETY

With the Ferroli Bluehelix Tech RRT range, we've designed a boiler that combines the best quality system with a high level of energy efficiency and a longer lifespan.

> SAFE
The patented gas-adaptive technology of MC2 (Multi Combustion Control) helps to ensure optimum combustion if the air density, gas quality or pressure changes.

> NATURAL GAS LPG READY (MLR)
With a simple configuration, the boiler can operate with either natural gas and LPG. No additional conversion kits are needed.

> COST-EFFECTIVE
The range has been designed for easy installation and maintenance. And because the appliances contain fewer components (for example, it has a self-cooling burner door with no insulation panel), the cost of replacing parts that deteriorate is reduced.

> EASY TO CONTROL
The large backlit multi-functional graphic display helps you set the controls quickly and easily.

> KEY ENERGY AND SAFETY FEATURES

✓ **MAXIMUM DOMESTIC COMFORT** – CERTIFIED WITH 3 STARS (EN 13203)

✓ **FACTORY BUILT BYPASS CIRCUIT** – AN EXTERNAL BYPASS SYSTEM IS STILL REQUIRED

✓ **FLUE PROTECTION SYSTEM (FPS)** – THE FLUE CHECK VALVE CAN EASILY BE CONNECTED TO COLLECTIVE PRESSURE FLUE SYSTEMS

✓ **ECO FUNCTION** – ACTIVATES THE BOILER ONLY WHEN THE HOT WATER IS USED

✓ **OUTSIDE WEATHER ADJUSTMENT** – IF AN OPTIONAL FERROLI EXTERNAL SENSOR IS FITTED

✓ **LOW CONSUMPTION MODULATING PUMP** – PRECISELY MATCHES THE DEMAND FOR HEAT

✓ **DIGITAL FLAME CONTROL** – IF NO FLAME IS DETECTED, THE SYSTEM WILL AUTOMATICALLY ATTEMPT THREE IGNITIONS (IF RUNNING ON NATURAL GAS)

✓ **SLEEKER DESIGN** – THE ISOLATION VALVES ARE HIDDEN BY THE BOILER DOOR PANELS.
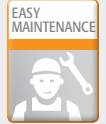
> EASY MAINTENANCE

Our clever design makes maintenance easier. All the main components are easily accessible and the Thermobalance™ heat exchanger allows servicing and repairs to be carried out accurately and quickly.

> *THE THREE PIECE CASING HAS REMOVABLE SIDE PANELS FOR EASY ACCESSIBILITY*

> *THE PRINTED CIRCUIT BOARD HOUSING CAN EASILY BE REMOVED FROM THE FRAME, GIVING FREE ACCESS TO INTERNAL PARTS*

> *THE BASE-MOUNTED FAN DOESN'T NEED REMOVING TO ACCESS THE BURNER/EXCHANGER UNIT*

> *THERE'S NO INSULATION PANEL ON THE BOILER DOOR SO THE RISK OF DAMAGE OR BREAKAGE DURING REMOVAL FOR MAINTENANCE AND CLEANING IS MINIMISED*

> *THE BURNER IS HELD IN PLACE WITH FLANGE NUTS. IT'S EASY TO REMOVE, LEAVING FREE ACCESS TO THE STAINLESS STEEL EXCHANGER*

> *THE INCREASED FLOW HEAT EXCHANGER IS DESIGNED TO WITHSTAND VERY HARD WATER AND THE MANIFOLD-FREE SINGLE PIPE CIRCUIT MAKES IT EASY TO CLEAN*

> *THE PLATE EXCHANGER CAN BE REMOVED BY TAKING OUT TWO BOLTS THAT ARE ACCESSED AT THE FRONT OF THE UNIT.*

> TECH RRT
AN INSIDE VIEW
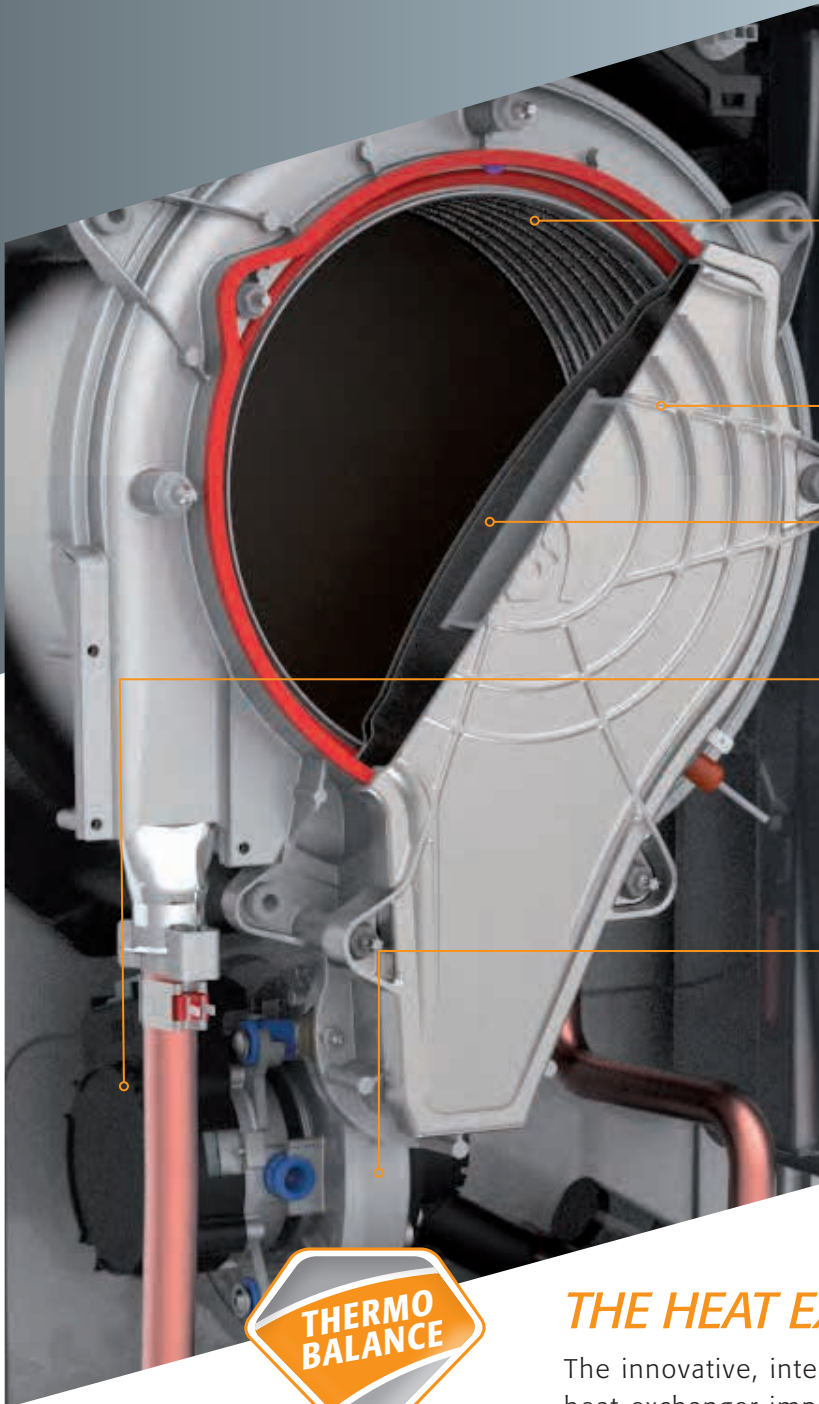
> EXCHANGER

SINGLE CIRCUIT STAINLESS STEEL EXCHANGER WITH MULTIPLE PASSAGES. RESISTANT TO CLOGGING AND EASY TO MAINTAIN.

> BURNER DOOR

SELF-COOLING – NO INSULATION PANEL.

> BURNER

SEMI-CIRCULAR STAINLESS STEEL BURNER WITH DURABLE GASKET.

> GAS ADAPTIVE

OUR SMART 'GAS ADAPTIVE' SYSTEM IS THE SAME TYPE THAT'S USED ON HIGH SPEC INDUSTRIAL UNITS. IT MONITORS AND AUTOMATICALLY ADAPTS THE LEVEL OF COMBUSTION AS THE GAS OR FLUE CONDITIONS CHANGE.

> FAN

THE FAN AND FLUE CHECK VALVE ARE MOUNTED AT THE BASE OF THE UNIT SO THAT MAINTENANCE CAN EASILY BE CARRIED OUT WITHOUT TAKING THE UNIT APART.

THERMO BALANCE

THE HEAT EXCHANGER

The innovative, intelligent design of the Thermobalance™ heat exchanger improves the efficiency and performance of the Bluehelix Tech RRT range, making it easier to service and maintain.

fig. A   fig. B
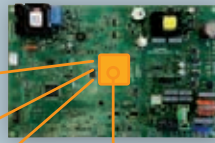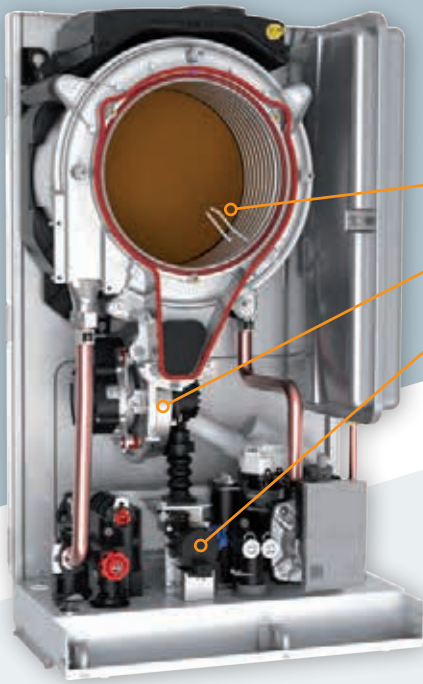
MULTI COMBUSTION CONTROL

Our smart 'gas adaptive' technology – MC2 (Multi Combustion Control) – is the same type that's used on high spec industrial units. It monitors and automatically adapts the level of combustion as the gas or flue conditions change.

HOW DOES IT WORK? – MC2 electronically controls the relationship between the air/gas ratio and the flame ionisation signal to cope with fluctuations or reduced pressure with the inlet gas supply.

THE COMBUSTION CHAMBER

Made with AISI 304 stainless steel, the pipe that forms the heat exchanger is extremely smooth. It's less prone to getting clogged or restricted with deposits, so the unit works more efficiently and lasts longer.
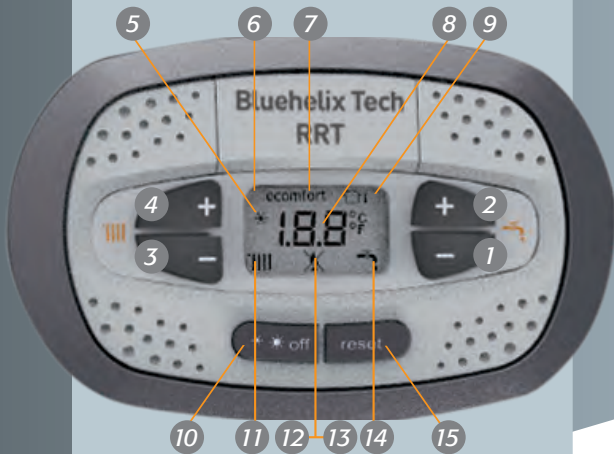
EVOLVING AND IMPROVING

The stainless steel Thermobalance™ heat exchanger has larger waterways (fig.A) than standard exchangers (fig.B), making it far more efficient. Even if there are restrictions within the system, the boiler will keep operating at the top of its efficiency range.

> *SMOOTH SURFACE REDUCES DEPOSITS AND EXTENDS THE LIFE OF THE HEAT EXCHANGER*

> *AIR-COOLED DOOR WITH NO INSULATION PANEL. WITH FEWER PARTS, THE UNIT IS EASIER AND CHEAPER TO MAINTAIN.*

> *SEMI-CIRCULAR STAINLESS STEEL BURNER WITH DURABLE GASKET.*

> SETTING AND CONTROLLING THE SYSTEM

Any Ferroli OpenTherm remote control can be connected to the Bluehelix Tech RRT range to manage the level of comfort in the room as required. Its simple and intuitive LCD display makes it easy to programme both heating and hot water.

The Bluehelix Tech RRT boiler is designed to accommodate a second thermostat if more than one area needs to be controlled.

The PCB fuse and electrical connections are all easily accessible.

KEY

1-2 DHW TEMPERATURE SETTING DECREASE/INCREASE BUTTONS

3-4 HEATING SYSTEM TEMPERATURE DECREASE/INCREASE BUTTONS

5 SUMMER MODE INDICATION

6 DISPLAY

7 ECO (ECONOMY) OR COMFORT MODE

8 MULTIFUNCTION DISPLAY (FLASHING DURING EXCHANGER PROTECTION FUNCTION)

9 EXTERNAL SENSOR DETECTED (WITH OPTIONAL EXTERNAL PROBE)

10 MODE SELECTION BUTTON "WINTER", "SUMMER", "APPLIANCE OFF", "ECO", "COMFORT"

11 HEATING DEMAND

12 BURNER LIT (FLASHING DURING CALIBRATION FUNCTION AND SELF-DIAGNOSIS PHASES)

13 APPEARS WHEN A FAULT HAS OCCURRED CAUSING THE UNIT TO SHUT DOWN. TO RESTORE UNIT OPERATION, PRESS THE RESET BUTTON (15)

14 DHW DEMAND

15 RESET BUTTON

OUTSIDE WEATHER ADJUSTMENT

Coupled with optional external weather sensor, the Bluehelix Tech RRT automatically varies the system temperature depending on the weather outside. It's a built in feature so doesn't need a remote control to activate it; this makes configuration easier if you need to replace the unit.
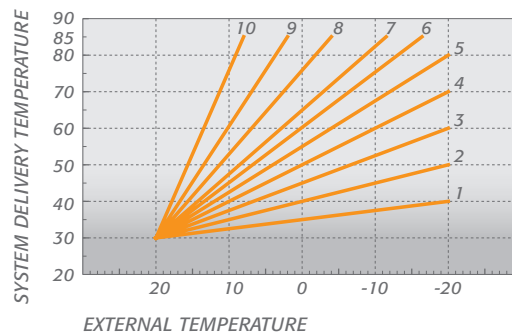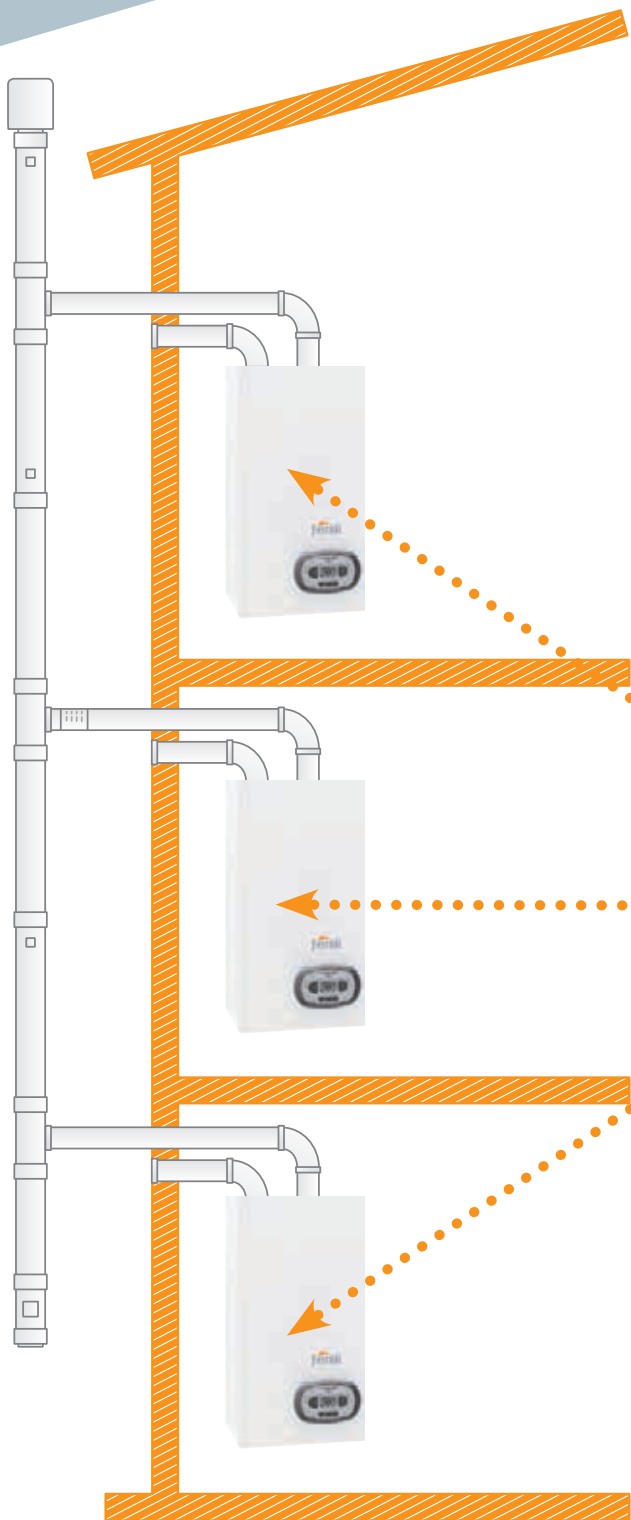
POWER MODULATION

As the required room temperature is reached, OpenTherm's modulating function eliminates uncomfortable heat peaks, saving energy and improving comfort.
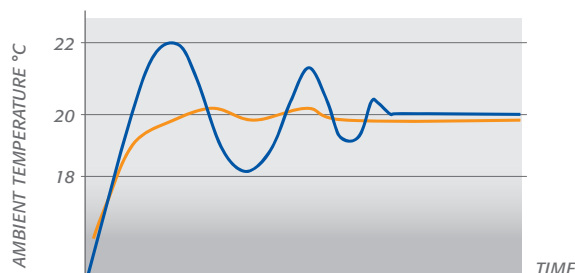
WITH REMOTE ROMEO TIMER

WITH NON-MODULATING AMBIENT THERMOSTAT

> COLLECTIVE PRESSURE APPLIANCES

Flue Protection System (FPS) – the flue check valve (installed as standard) allows for easy connection to collective pressure flue systems, for example in redevelopment projects. The collective pressure flue solution is more cost-effective for installers and where there are smaller chimney diameters.

COLLECTIVE
PRESSURE
APPLIANCES

F
P
S
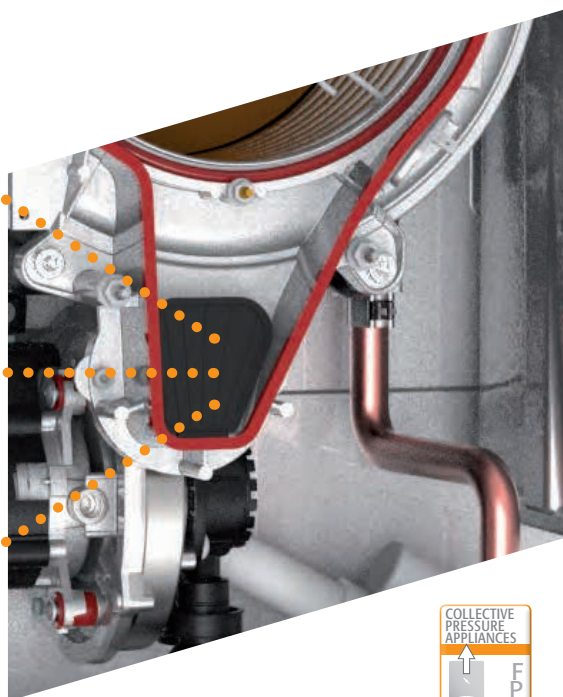
> FLUES
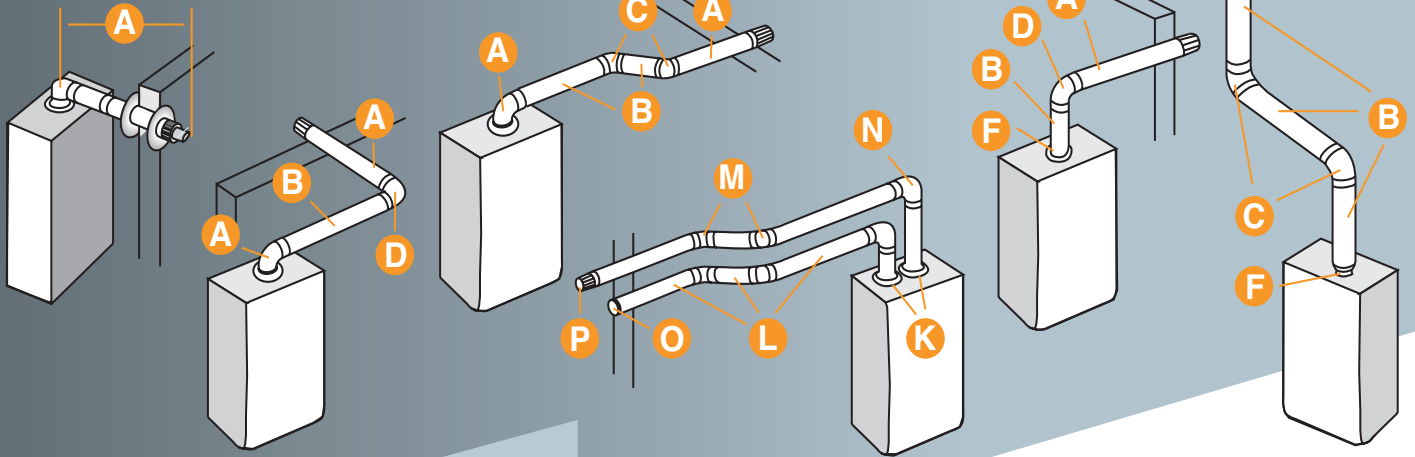
Essential to the boiler's operation is the availability of fresh, clean air and the ability to dispose of combustion products. This is achieved through the installation of a flue which provides ducts to the outside of the premises.

To optimise safety and performance, Ferroli flues must always be used with Ferroli boilers. Ferroli has a comprehensive range of accessories to suit complex installations and to enable the extension of flue lengths. The diagram above shows typical flueing options.

CLEARANCES	
A 2.5cm (minimum)	
B 20cm (minimum)	
C 30cm (minimum)	
D 60cm (minimum) via an openable panel	
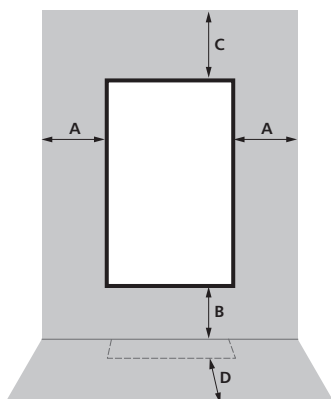
ACCESSORIES		CODE
A	Telescopic Flue 60/100mm – nominal length 610mm	041049G0
B	Flue Extension 60/100mm Ø – nominal length 1m	1KWMA57W
C	Elbow 45°– 60/100mm Ø	1KWMA64W
D	Elbow 90°– 60/100mm Ø	041051X0
E	Flue Vertical Termination 60/100mm Ø	1KWUK356
F	Appliance Adaptor for Vertical Flue 60/100mm Ø	041002X0
G	Bracket – Flue Support 100mm Ø	1KWMR46A
H	Roof Flashing Plate – Flat Roof Ø	1KWMA81U
I	Roof Flashing Plate – Pitched Roof Ø	1KWMA82U
J	Pluming Kit – 60/100/60mm Ø (with flue kit combined)	041042G0
K	Appliance Adaptor (Pair) for Twin 80mm Ø	041039X0
L	Flue Extension 80mm Ø – nominal length 1m	222952
M	Elbow 45°– 80mm Ø	222954
N	Elbow 90°– 80mm Ø	222955
O	Terminal (Air Intake) for Twin 80mm Ø Horizontal	1KWMA85A
P	Terminal (Flue Exhaust) for Twin 80mm Ø Horizontal	1KWMA86A
Q	Bracket – Flue Support 80mm Ø	1KWMR48A
R	Flue Vertical Termination Twin Connection 80mm Ø	010027X0
S	Standard Rigid Flue Kit 60/100mm – 1m	041025G0

Please contact Ferroli Sales for other 80/125 mm Ø flue options and accessories not shown.

NOTE: For non standard flue lengths over 1m a fall of 3mm per metre per length should be incorporated back to the boiler. Consult manufacturer's installation instructions for full guidance and options for flueing.

> FLUE TERMINAL POSITIONS

FLUE TERMINAL POSITIONS	mm
A Directly below an opening, air brick, opening windows etc.	300
B Above an opening, air brick, opening windows etc.	300
C Horizontally to an opening, air brick, opening windows etc.	300
D Below gutters, soil pipes or drain pipes	75
E Below eaves	200
F Below balconies or car port	200
G From a vertical drain pipe or soil pipe	150
H From an internal or external corner	100
I Above ground roof or balcony level	300
J From a surface facing the terminal	600
K From a terminal facing the terminal	1200
L From an opening in the car port (ie. door, window) into the dwelling	1200
M Vertically from a terminal on the same wall	1500
N Horizontally from a terminal on the same wall	300
O From the wall on which the terminal is mounted	N/A
P From a vertical structure on the roof	150
Q Above intersection with roof	300

NOTE: In addition, the terminal must not be nearer than 300mm to an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame.
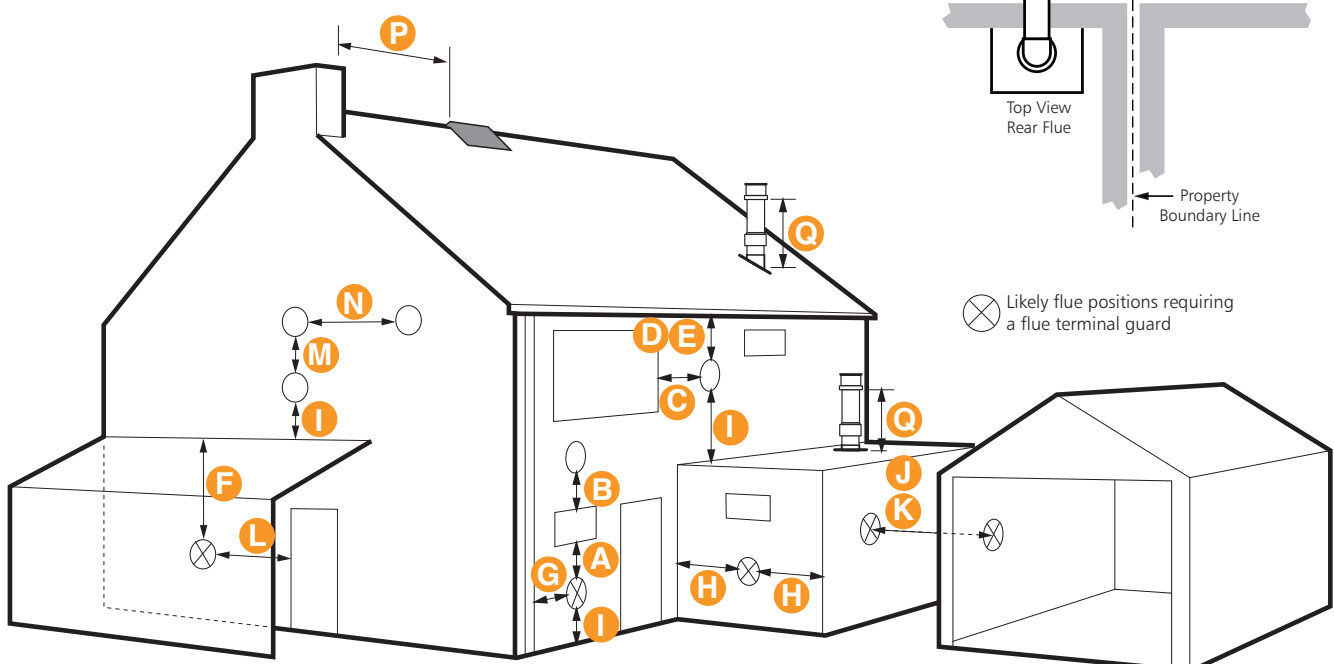
Condensing terminal positions: if the flue is to be terminated at low level then the potential effect of the plume must be considered.
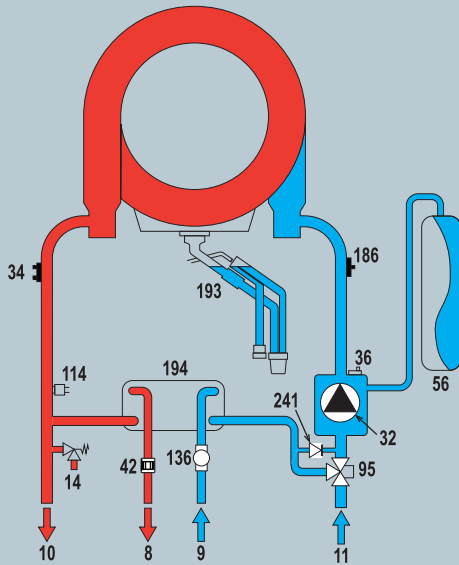
The plume should not be directed:
– across a frequently used access route
– towards a window
– across a neighbouring property

For more information on terminal positions please contact our technical department.

The distance from a fanned draught appliance terminal installed parallel to a boundary may not be less than 300mm in accordance with the diagram below.

Terminal Assembly

300 min

Top View Rear Flue

Property Boundary Line

⊗ Likely flue positions requiring a flue terminal guard

HYDRAULICS
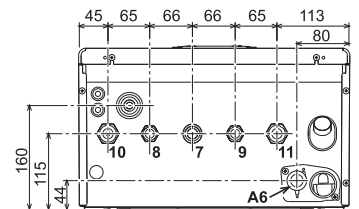### (COMBINATION BOILERS)

KEY

- **8** DOMESTIC WATER OUTLET
- **9** DOMESTIC WATER INLET
- **10** SYSTEM FLOW
- **11** SYSTEM RETURN
- **14** SAFETY VALVE
- **32** CIRCULATING PUMP
- **34** HEATING TEMPERATURE SENSOR
- **36** AUTOMATIC AIR VENT
- **42** DOMESTIC HOT WATER TEMPERATURE SENSOR
- **56** EXPANSION VESSEL
- **95** DIVERTER VALVE
- **114** LOW WATER PRESSURE SWITCH
- **136** FLOWMETER
- **186** RETURN SENSOR
- **193** CONDENSATE TRAP
- **194** DOMESTIC HOT WATER EXCHANGER
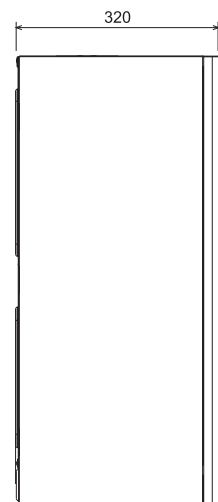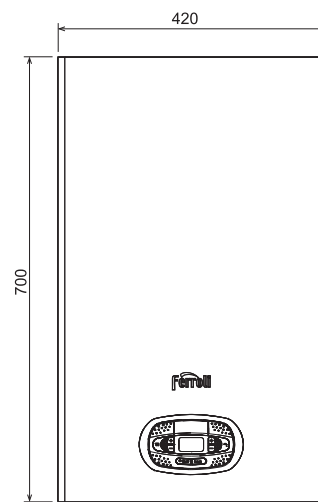- **241** AUTOMATIC BOILER BYPASS
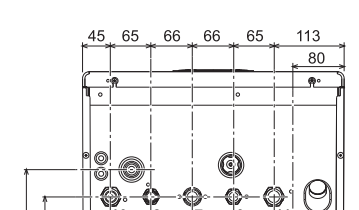
BLUEHELIX TECH RRT 24C/28C
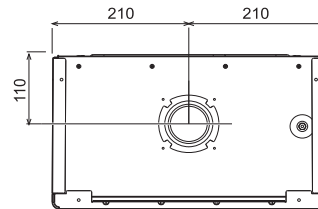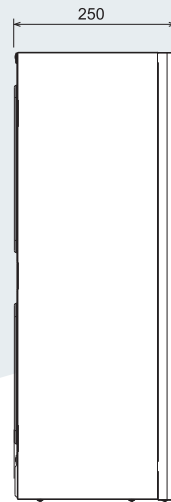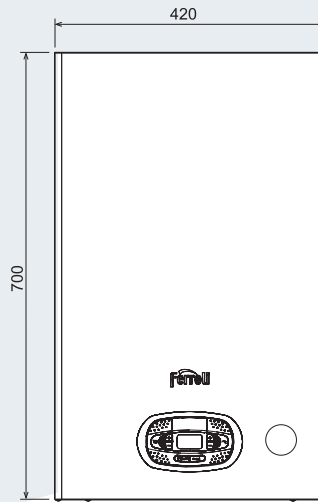
TOP VIEW

BOTTOM VIEW

BLUEHELIX TECH RRT 34C

TOP VIEW

BOTTOM VIEW

BLUEHELIX TECH RRT 18S/24S

420

250

700

210   210

110

45   131   131   113

83

115

45

10   7   11

A6

TOP VIEW

BOTTOM VIEW

BLUEHELIX TECH RRT 30S

420

320

700

210   210

110

45   132   132   112

83

115

45

10   7   11

A6
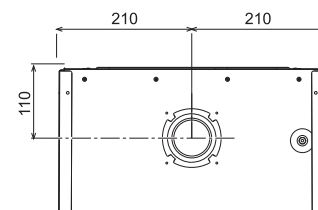
TOP VIEW

BOTTOM VIEW
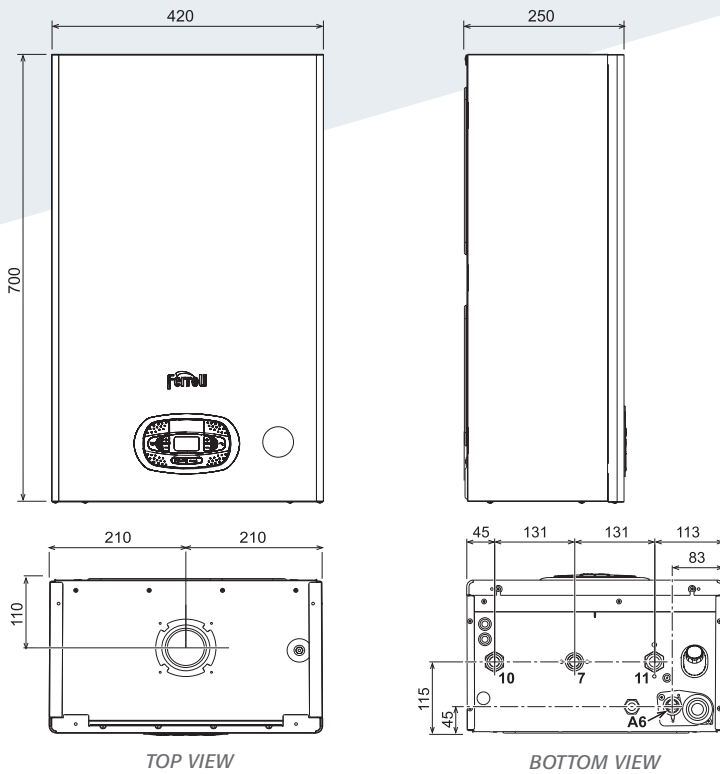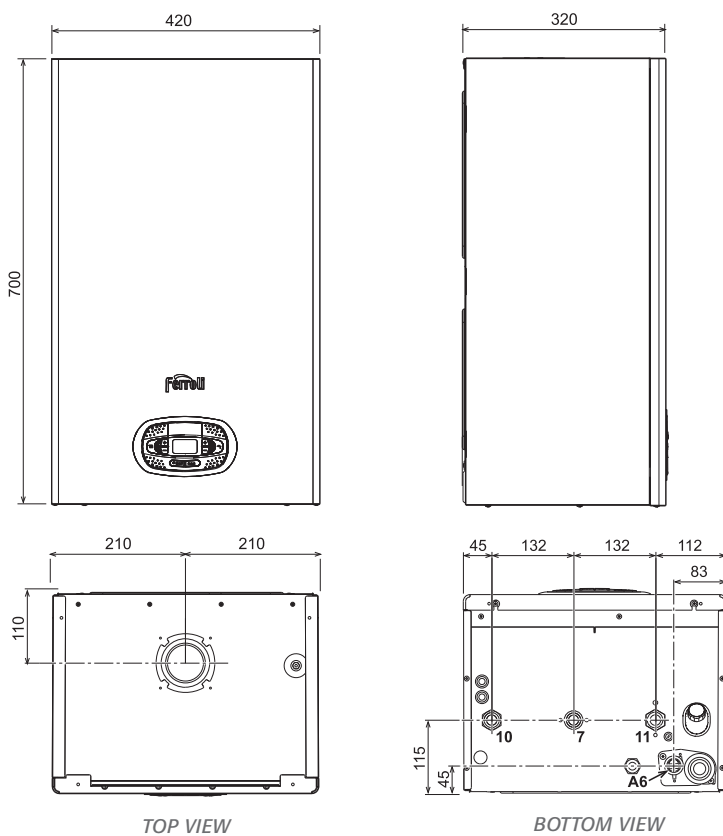
KEY *(COMBINATION BOILERS)*

7   3/4" GAS INLET

8   1/2" DOMESTIC HOT WATER OUTLET

9   1/2" DOMESTIC HOT WATER INLET

10 3/4" SYSTEM FLOW

11 3/4" SYSTEM RETURN

A6 CONDENSE DISCHARGE CONNECTION

KEY *(SYSTEM BOILERS)*

7   3/4" GAS INLET

8   1/2" DOMESTIC HOT WATER OUTLET

9   1/2" DOMESTIC HOT WATER INLET

10 3/4" SYSTEM FLOW
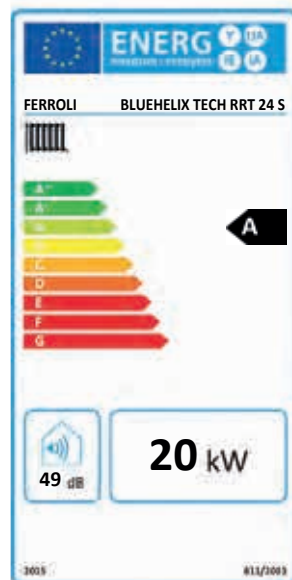
11 3/4" SYSTEM RETURN

A6 CONDENSE DISCHARGE CONNECTION
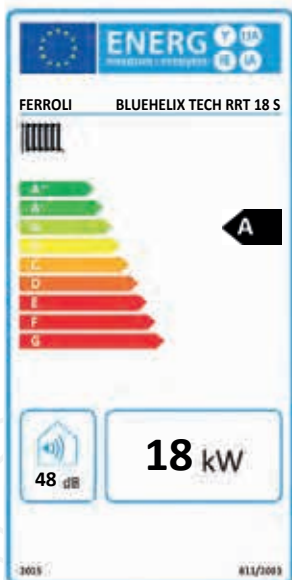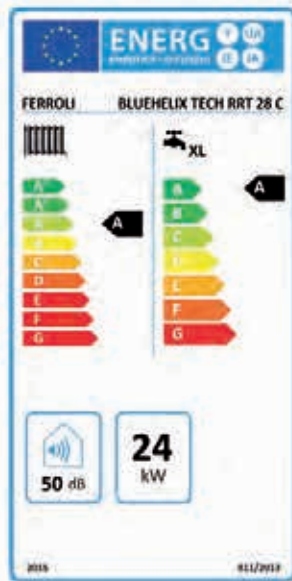
BLUEHELIX TECH RRT		24 C	28 C	34 C	18 S	24 S	30 S
ERP class	(heating)	A	A	A	A	A	A
	(dhw)	XL A	XL A	XXL A	–	–	–
Max / min thermal input flow rate in heating mode (Hs)	kW	20.4 / 5	24.5 / 5	30.6 / 6.1	18.4 / 5	24.5 / 5	30.6 / 6.4
Max / min thermal output power in heating mode (80/60°C)	kW	20 / 4.9	24 / 4.9	30 / 6.3	18 / 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	19.5 / 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	5.0	5.0	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	97.9	98.1	98.1	97.9
Min P output (80-60°C) (Hi) efficiency	%	97.8	97.8	98	97.8	97.8	98
Max P output (50-30°C) (Hi) efficiency	%	106.1	106.1	106.1	106.1	106.1	106.1
Min P output (50-30°C) (Hi) efficiency	%	107.5	107.5	107.5	107.5	107.5	107.5
Output 30% efficiency	%	109.7	109.7	109.5	109.7	109.7	109.5
G20 supply gas pressure	mbar	20	20	20	20	20	20
G20 max gas flow rate	m³/h	2.65	3.02	3.67	1.95	2.59	3.24
G20 min gas flow rate	m³/h	0.53	0.53	0.68	0.53	0.53	0.68
G20 max / min CO_2	%	9±0.8 *	9±0.8 *	9±0.8 *	9±0.8 *	9±0.8 *	9±0.8 *
G31 supply gas pressure	mbar	37	37	37	37	37	37
G31 max / min gas flow rate	kg/h	1.94 / 0.39	2.21 / 0.39	2.70 / 0.50	1.43 / 0.39	1.90 / 0.39	2.38 / 0.50
G31 max / min CO_2	%	10±0.8 *	10±0.8 *	10±0.8 *	10±0.8 *	10±0.8 *	10±0.8 *
NOx emission class (EN 15502-1)	-	6	6	6	6	6	6
Max operating pressure in heating mode	bar	2.5	2.5	2.5	2.5	2.5	2.5
Min operating pressure in heating mode	bar	0.8	0.8	0.8	0.8	0.8	0.8
Max heating temperature	°C	80	80	80	80	80	80
Heating water content	litres	2.9	2.9	4.2	2.9	2.9	4.2
Expansion vessel capacity	litres	8	8	10	8	8	10
Expansion vessel preload pressure	bar	0.8	0.8	0.8	0.8	0.8	0.8
Max domestic hot water operating pressure	bar	9	9	9	–	–	–
Min domestic hot water operating pressure	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	–	–	–
Domestic flow rate Δt 35°C	l/min	9.8	11.5	13.9	–	–	–
Electrical protection rating (IEC 60529)	IP	X5D	X5D	X5D	X5D	X5D	X5D
Supply voltage	V/Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz	230V / 50Hz
Absorbed electric power	W	73	82	99	60	63	80
Seasonal space heating energy efficiency	η_s %	94	94	94	94	94	94
Weight (empty)	kg	28	28	32	28	28	28
CODE		0T3B2BGA	0T3B2AGA	0T3B3AGA	0T3D1AGA	0T3D2BGA	0T3D3AGA

* After 500 hours of operation

FERROLI — BLUEHELIX TECH RRT 24 C — A — A — 20 kW — 49 dB

FERROLI — BLUEHELIX TECH RRT 28 C — A — A — 24 kW — 50 dB

FERROLI — BLUEHELIX TECH RRT 34 C — A — A — 30 kW — 49 dB

FERROLI — BLUEHELIX TECH RRT 18 S — A — 18 kW — 48 dB

FERROLI — BLUEHELIX TECH RRT 24 S — A — 20 kW — 49 dB

FERROLI — BLUEHELIX TECH RRT 30 S — A — 30 kW — 49 dB

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