

RESIDENCE HM

THE NEW GENERATION OF COMFORT

wall-hung condensing boilers



RIELLO
Energy For Life

www.riello.com

RESIDENCE HM

RESIDENCE HM UNVEILS A NEW GENERATION OF CONDENSING BOILERS, ESTABLISHING RIELLO'S COMMITMENT TO TECHNOLOGICAL INNOVATION WITH THE AIM OF ENERGY SAVING AND SUSTAINABILITY, OFFERING A COMFORT THAT IS MORE AND MORE RESPONSIVE TO MODERN USER NEEDS.

RESIDENCE, among the most representative ranges of Riello's portfolio in terms of reliability and performance, has been profoundly renewed in design and technology to give rise to RESIDENCE HM.

There are many new features of this new wall-hung condensing boiler compared to the previous RESIDENCE series: from the **high 1:10 modulation across the whole range**, to the new stainless steel heat exchanger with **renewed adaptive combustion control**, up to the **new touch control panel**, just to mention the major ones.

Common denominator of the entire range is the **technological research aimed at energy saving** to offer ever higher comfort: from the **silent operation** to the **performance**, many are the improving features of RESIDENCE HM, which the user will not fail to appreciate.

The new range comes in a **completely new design with** a modern and evolved character that harmonizes easily in different residential contexts, both in retrofitting and new buildings.

Moreover, like all new-generation Riello boilers, RESIDENCE HM is **future-oriented: in fact, it is ready to operate with natural gas and hydrogen blends up to 20%, thus helping to reduce the environmental impact** and emissions of condensing boilers in the coming years.



HIGH PERFORMANCE

Thanks to the wide **1:10 modulation**, the new intelligent combustion control ACC and the renovated primary and DHW exchangers.



EXCELLENT DHW COMFORT

Hot water without temperature fluctuations for optimal comfort during withdrawals, **with a best-in-class load profile**.



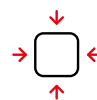
TOUCH INTERFACE

The interface of RESIDENCE HM maintains the simplicity and intuitiveness of use, innovating itself by featuring a distinctive touch esthetics.



SILENT OPERATION

RESIDENCE HM features a very silent operation, making it an ideal solution for indoor installation.



COMPACT DESIGN

The compactness across all sizes makes RESIDENCE HM **suitable even for installation in a kitchen cabinet**. The boiler can also be installed recessed in-box or outdoors in a partially protected location.



EASY INSTALLATION AND MAINTENANCE

Thanks to the ACC adaptive combustion control system, the compactness and the front access to components.





THE RANGE

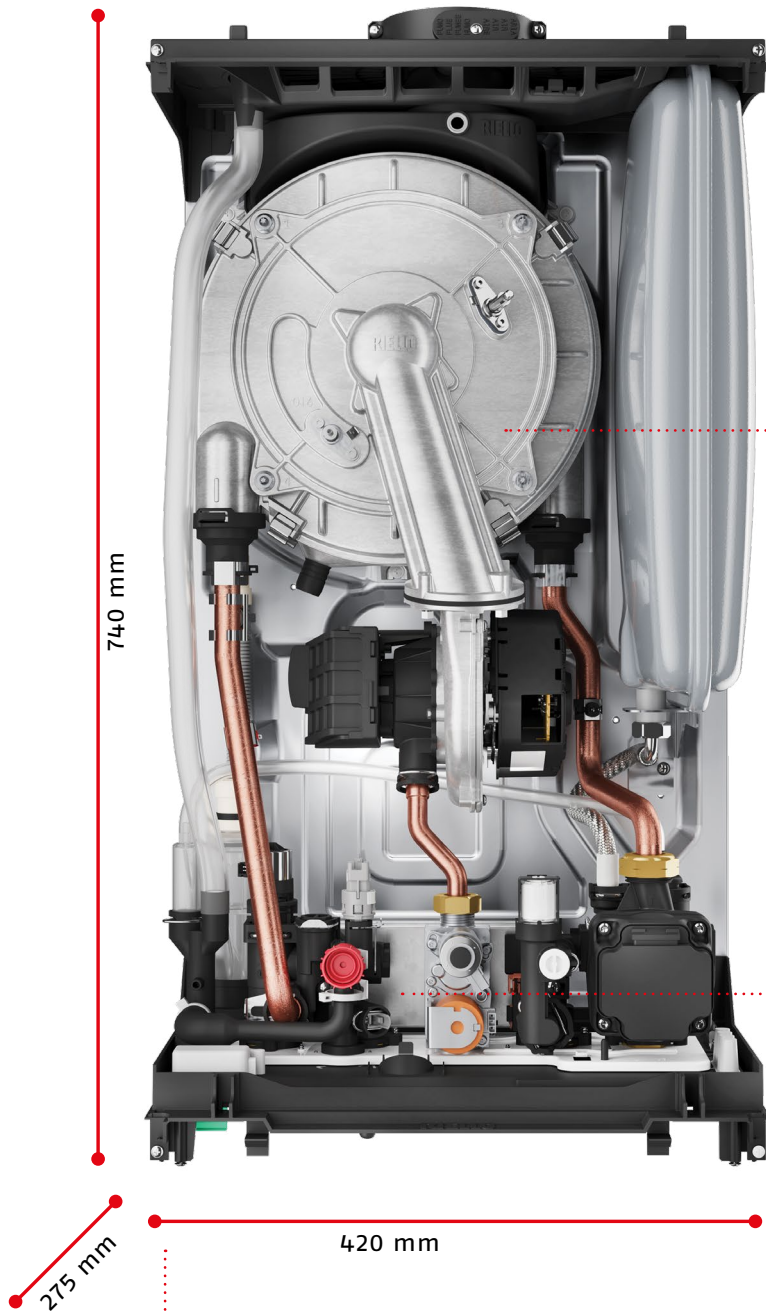
RESIDENCE HM is available in four output sizes, which are divided into five versions, combined (KIS) and/or heating-only (IS):

- **RESIDENCE HM 20:** IS version
- **RESIDENCE HM 25:** KIS version
- **RESIDENCE HM 30:** KIS and IS versions
- **RESIDENCE HM 35:** KIS version

With the ACC system, there is no need for dedicated codes in the case of LPG, because the new RESIDENCE HM can automatically adapt its operation to the type of fuel.

All models are also certified for use with propane air.

TECHNOLOGY TO PROVIDE COMFORT AND ENERGY EFFICIENCY



Dimensions (H x W x D) across the entire range. **Even the 35 kW model has a depth of only 275 mm!**

New flue gas flange with **click-fit safety collar**.

Reduced NOx emissions: **CLASS 6 (EN 15502)**.

Wide 1:10 modulation over the entire range for high energy savings.

Seasonal efficiency **94%**.

New stainless steel exchanger with **renewed adaptive ACC Combustion control system**.

9 litres side expansion vessel.

High-performance DHW plate heat exchanger developed in-house.

New digital modulating circulator with low consumption.

New hydraulic group with **DIN-type connection sequence** for simplified replacement.

Top cover and bottom shelf made of **new co-molded materials** to promote longevity and strength.



NEW ADAPTIVE ELECTRONIC COMBUSTION CONTROL

RESIDENCE HM is equipped with a new intelligent ACC (active combustion control) system that can automatically adapt to the fuel (natural gas, LPG, etc.) without requiring any specific codes or accessory conversion kits. This innovative and sophisticated control system enables self-adjustment of combustion, eliminating the need for initial calibration. The ACC system is also capable of adapting the boiler to operate with different gas configurations, different pipe lengths, and at different altitudes (within the design limits). The ACC system is also capable of self-diagnosis for combustion that is always under control, with emissions consistently below regulatory limits.

**HIGH EFFICIENCY****STABILITY OF DOMESTIC HOT WATER****SILENT OPERATION****FRONTAL ACCESS****'ZERO TIME' INSTALLATION****FACILITATED HANDLING****INTEGRABLE INTO HYBRID SYSTEMS****HIGH PERFORMANCE DHW PLATE EXCHANGER**

RESIDENCE HM "high performance" DHW exchanger, developed by Riello, offers excellent comfort, along with rapid set point and temperature stability during water tapping.

SILENT OPERATION

Thanks in part to the new materials introduced, RESIDENCE HM stands out for its quiet operation, an improved feature (about -10%) compared to the previous range and particularly appreciable when the boiler is installed inside the home. In fact, the noise level range is from 45 db(A), for the 30 KIS model, to 48 db(A) for the 20 IS model.

EASE OF INSTALLATION AND MAINTENANCE

The ACC system simplifies installation. During start-up, the new boiler does not need calibration and it is sufficient to select the type of fuel gas used by the boiler via the interface, if different from the default (natural gas). The small size and light weight make the product easy to transport and move during installation. Frontal access to the components also makes the product easier to maintain for the technician, speeding up service time.

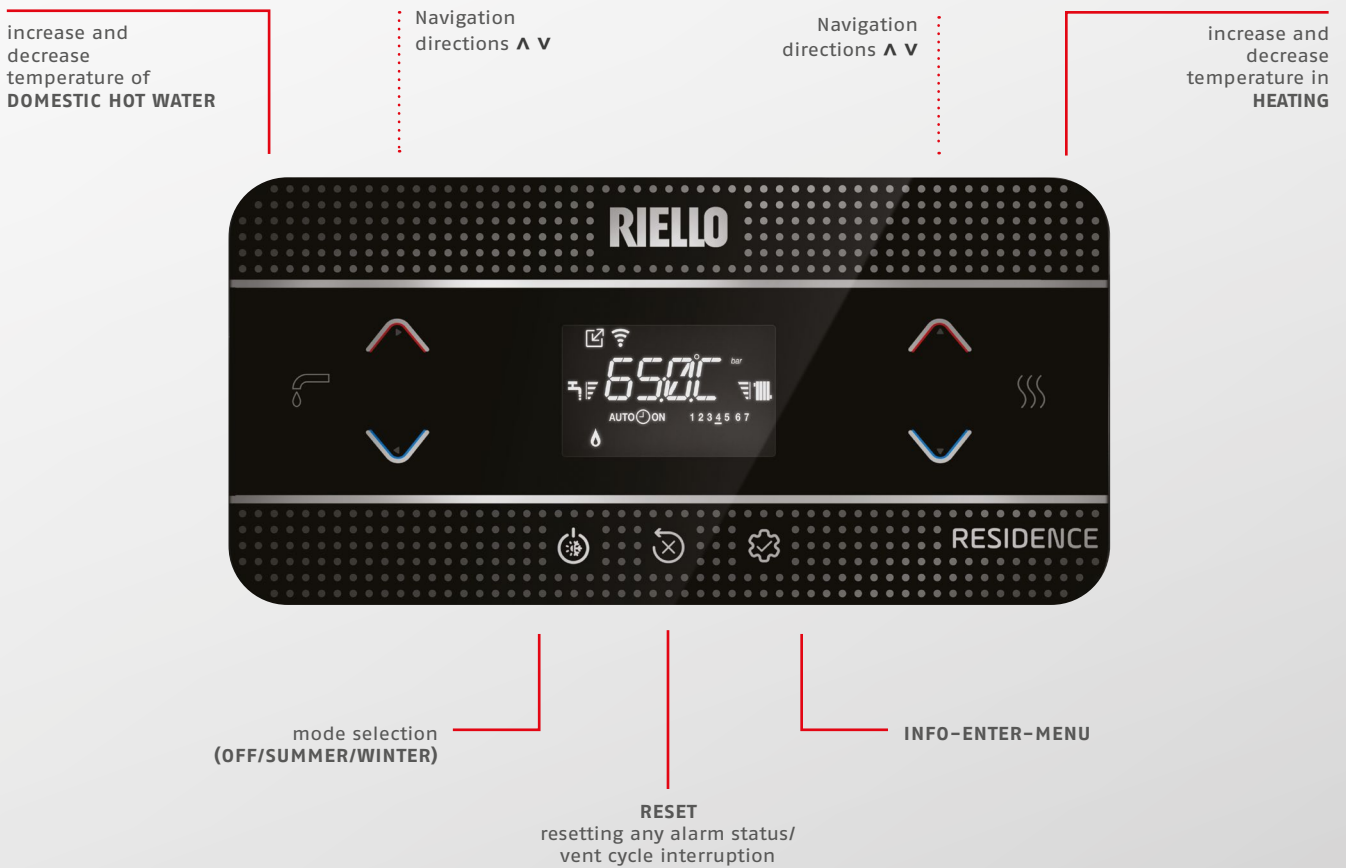
INTEGRABILITY IN HYBRID SYSTEMS

RESIDENCE HM is able to integrate into Riello multi-energy hybrid systems (gas/electricity and renewables) through the Hi, Comfort platform accessory offer.

NEW INTERFACE FEATURING EVOLVED AND MODERN DESIGN

RESIDENCE HM features a new digital interface with an attractive design, giving it a modern character in line with current aesthetic standards. Designed with a focus on ease of use, RESIDENCE HM panel provides **intuitive access to all boiler** system settings and **parameters** with a simple **"touch"** on **seven points** of its surface. A "buzzer," the

characteristic acoustic signal, is generated to confirm that the operation has taken place. The 2.8" HMI display has also been designed with simplicity of communication for the user, through the use of icons that make comprehension more immediate than text.



THE IMMEDIATE LANGUAGE OF ICONS

- | | | | | | |
|---|-------------------------|---|---|---|-------------------------------|
|  | DHW request ongoing |  | generic alarm |  | HEATING water pressure alarm |
|  | HEATING request ongoing |  | maintenance / flashing with bell icon for alarm |  | Flame presence or flame block |



Hi, Comfort



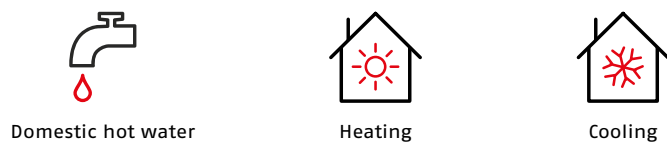
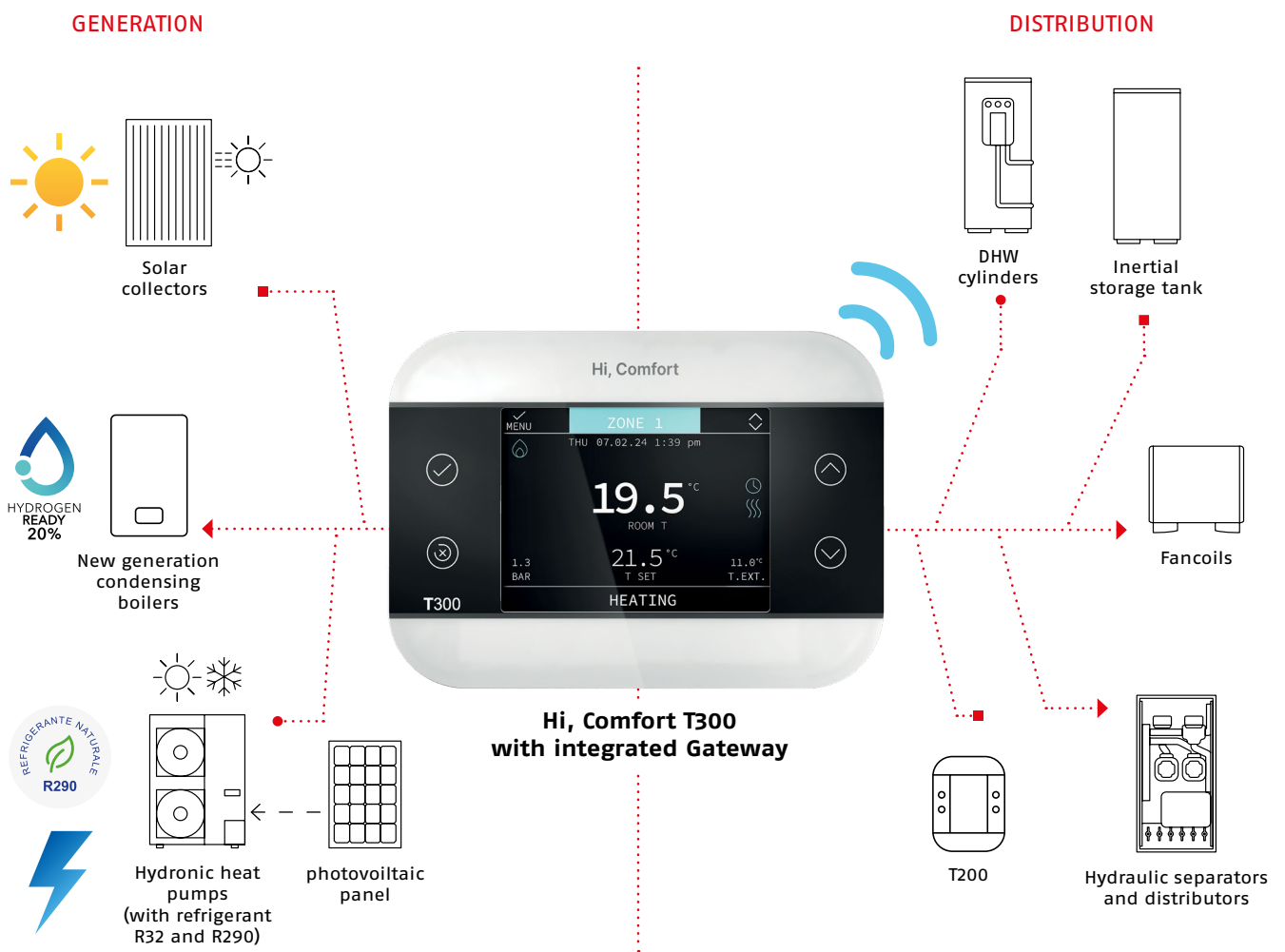
Hi, Comfort T300 THE EVOLUTION OF COMFORT

Riello's **new generation of condensing boilers** evolves toward increasingly integrated comfort solutions to offer an effective contribution to the energy transition in terms of responsible energy use.

RESIDENCE HM inaugurates compatibility with **Hi, Comfort T300**, the new room control with a stylish and modern design that integrates advanced functions, up to including remote management of a hybrid system.

Hi, Comfort T300. ALSO FOR HYBRID SYSTEMS

The RESIDENCE HM boiler is compatible with Hi, Comfort T300, the new advanced room control, with integrated gateway, which can manage up to 3 zones via expansion boards and, in the case of hybrid installation, operates as a true System Manager, for consumption optimization, also via the Hi, Comfort App. Hi, Comfort T300 is compatible with the latest generation Riello boilers and heat pumps for optimized home comfort management even in hybrid installations. The screen graphics of Hi, Comfort T300 are completely new, easy to read and do not tire the eyes. The icons are self-explanatory while the menu tree respects Riello's traditional configuration logic.

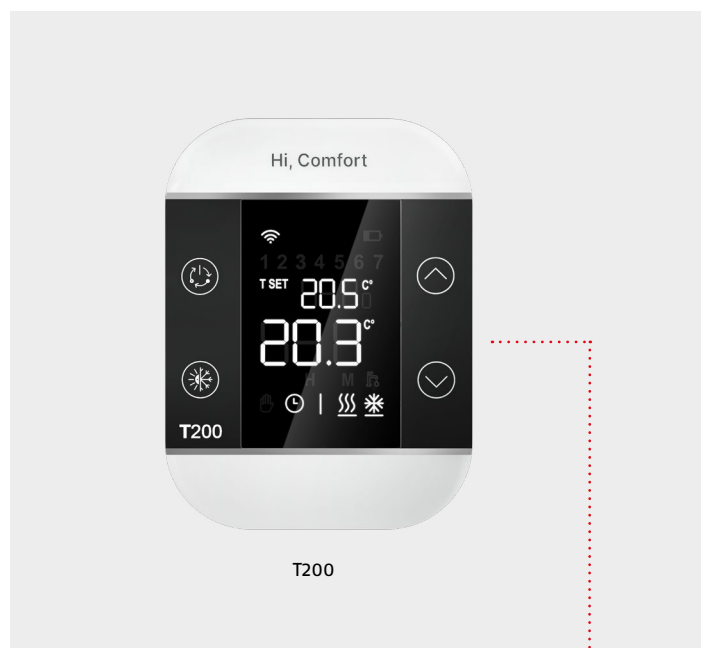


Note: Hi, Comfort T300 is compatible with Riello's offer for hybrid systems. Please see Product Catalogue.

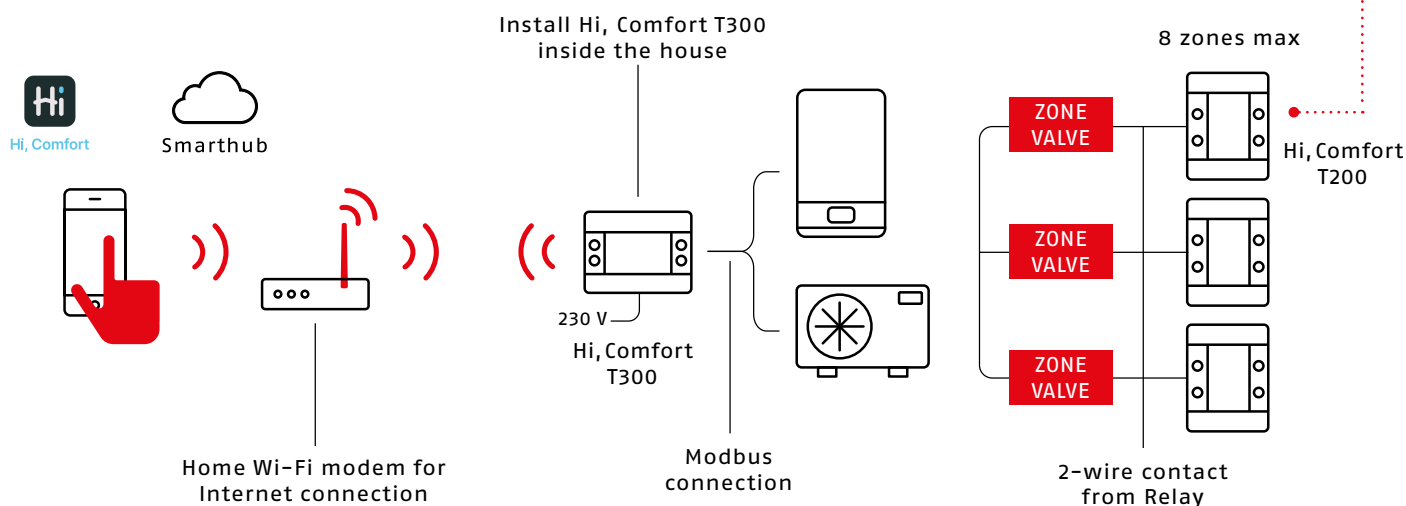
NEW ACCESSORIES FOR TAILORED COMFORT

RESIDENCE HM is also compatible with the new Hi, Comfort platform solutions, available as accessories, which enable easy and intuitive residential comfort management via App.

The Hi, Comfort T200 thermostat, paired in RF with the Hi, Comfort T300 advanced room control, enables optimal comfort control within every home room. Featuring innovative design and touch button technology for menu navigation, it offers a dual installation solution: wall-mounted, or, via dedicated holder, that can be placed on any furniture piece. It is also compatible with Hi, Comfort App.



TYPICAL SYSTEM CONFIGURATION DIAGRAM WITH T300



Hi, Comfort



FOR MORE IN-DEPTH INFORMATION ON THE Hi, Comfort SOLUTIONS PLEASE REFER TO www.hi-comfort.com

NEW SUSTAINABLE AND RECYCLABLE PACKAGING

Riello's ongoing commitment to providing heating solutions that are environment and well-being conscious now extends to packaging. RESIDENCE HM, like all new-generation Riello boilers, is packaged in an FSC-certified, plastic-free and fully recyclable **package**, a further contribution aimed at minimizing the environmental impact of our products.

RESIDENCE HM CARDBOARD BOX "IS MADE FROM A MIXTURE OF MATERIALS FROM FSC-CERTIFIED FORESTS, RECYCLED MATERIALS AND/OR FSC-CONTROLLED WOOD".

FSC (Forest Stewardship Council) is currently "the most accredited forest certification system in the world in terms of number of certificates issued, robustness of certification criteria and companies involved in the processes."



The packaging of RESIDENCE HM is 'plastic free', since the plastic of the elements commonly used for packaging has been completely removed and replaced with biodegradable materials.



Plastic free packaging



Compostable envelope

The packaging of RESIDENCE HM also becomes a communication vehicle, aimed at informing and raising awareness of the important topic of environmental friendliness. On both sides of the box a series of icons, symbolically flanked by a stylized leaf, illustrate the features of RESIDENCE HM and its packaging that contribute to minimizing the product's ecological footprint.

- 
-  Reduced consumption
 -  Hydrogen-Ready 20%
 -  Energy saving
 -  Product recyclability*

PRODUCT RECYCLABILITY

Particular attention is also paid to the recycling of the product at the end of its life, through the declaration of the product's recyclability index, amounting to 78%* for Residence HM, an indicator expressing the degree of recovery of materials, the so-called Secondary Raw Materials (SRM), useful to be reused in the production of new goods, thus contributing to the reduction of environmental impact.

* The product recyclability index was derived from internal estimates based on an independent study conducted in 2022 on a Riello condensing boiler, Model 20139525 Residence 25 Kis (DOMESTIC EEE belonging to Grouping R4 of the WEEE regulations according to Legislative Decree 49/2014) by ECOPEP, the Italian Consortium for the Management of Waste Electrical and Electronic Equipment (WEEE), Batteries and Accumulators (Ri.P.A.) and Sports and Leisure Equipment.

A LOOK INTO THE FUTURE

RESIDENCE HM is born now, thinking of tomorrow. The new condensing range is, in fact, designed to operate with blends of natural gas and hydrogen – up to a maximum of 20% – a contribution towards the decarbonisation process started by the European Union.



HYDROGEN
READY
20%

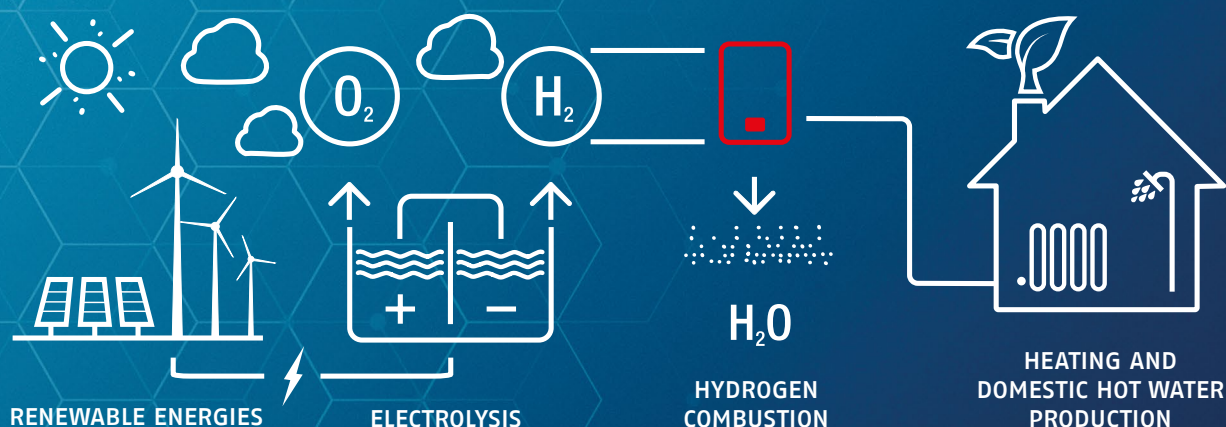
HYDROGEN USE CYCLE

Hydrogen is a safe and clean gas that, blended with natural gas up to a maximum ratio of 20 to 80 percent, makes it possible to generate heat and domestic hot water, with lower CO₂ emissions than other fuels*.

* Data from E. A. Polman (2003) "Reduction of CO₂ emissions by adding hydrogen to natural gas", IEA Greenhouse Gas R&D program, report number PH4/24.

GAS	HIGH CALORIFIC POWER	RELATIVE CO ₂ EMISSIONS
H ₂ - content [vol%]	Relative Wobbe [%]	[%]
0	100	100
20	94,7	93,7
100	85,0	13,3

Variation of Wobbe index and CO₂ reduction as a function of hydrogen content. The hydrogen is presumed to be made by large-scale steam reforming and that CO₂ is captured with a recovery rate of 86,7% of CO₂.



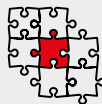
A BOILER FOR MULTIPLE SOLUTIONS

THE AVAILABILITY OF A WIDE RANGE OF DEDICATED ACCESSORY KITS MULTIPLIES THE SOLUTIONS IN TERMS OF INSTALLATION APPLICATIONS OF RESIDENCE HM, A VERSATILE BOILER DESIGNED TO MEET DIFFERENT PLANT AND COMFORT REQUIREMENTS

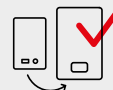
Compactness, low weight, and IPX5D electrical protection rating enable RESIDENCE HM to be **easily installed not only inside the home, but also outdoors (in a partially protected location) and recessed in box**. The product is also ideal for replacement, favored by the availability of conversion accessory kits, in case the boiler to be replaced is not equipped with DIN connections.



**UNIVERSAL
INSTALLATION**



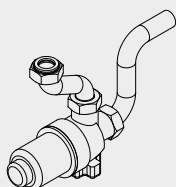
**EASE OF
INTEGRATION**



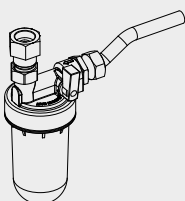
**EASE OF
REPLACEMENT**

RESIDENCE HM has a very wide range of accessories, from the chimney flue to plumbing, mechanical and electrical accessories, to the under-roofing, to harmonize integration in indoor environments. Below you can find some new accessories, representative of the offer, fully available in the catalog.

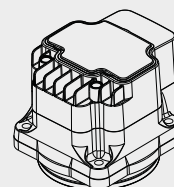
HYDRAULIC ACCESSORIES



COMPACT MAGNETIC WATER FILTER

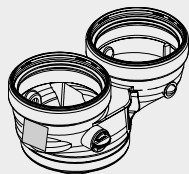


COMPACT POLYPHOSPHATE DISPENSER



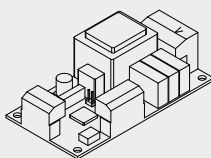
HIGH HEAD PUMP (7.5 M)

FLUE GAS ACCESSORIES



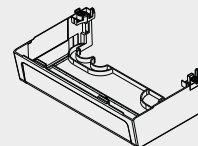
COMPACT ADAPTER Ø60-100
TO Ø80-80

ELECTRONICAL ACCESSORIES



EXPANSION BOARD
ADDITIONAL ZONE CONTROL

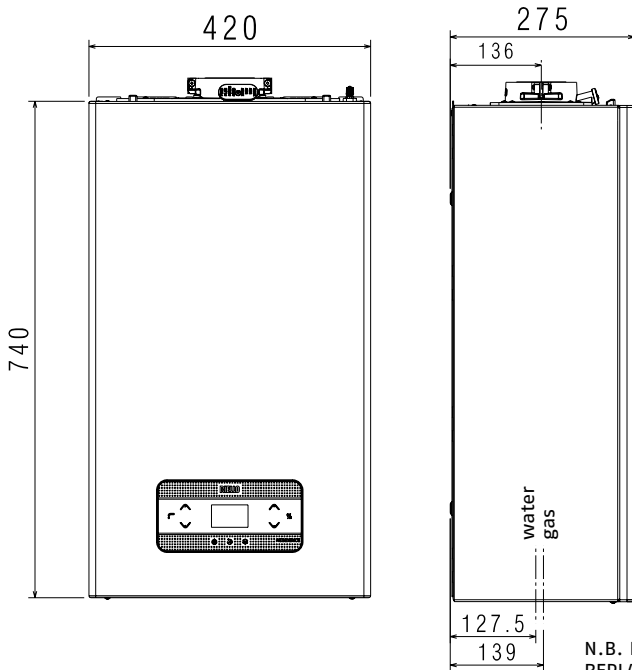
MECHANICAL ACCESSORIES



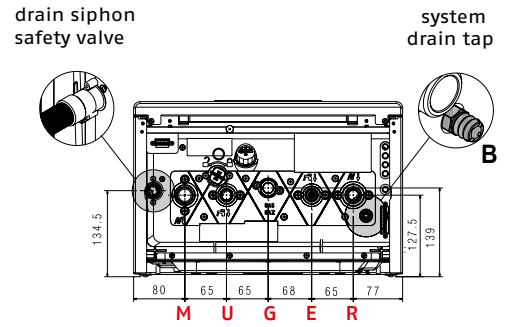
LOWER FITTING COVER

DRAWINGS AND TECHNICAL DATA

TECHNICAL DRAWINGS



VIEW FROM BOTTOM

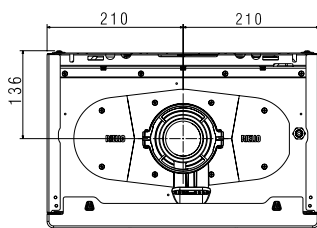


DIN HYDRAULIC CONNECTIONS

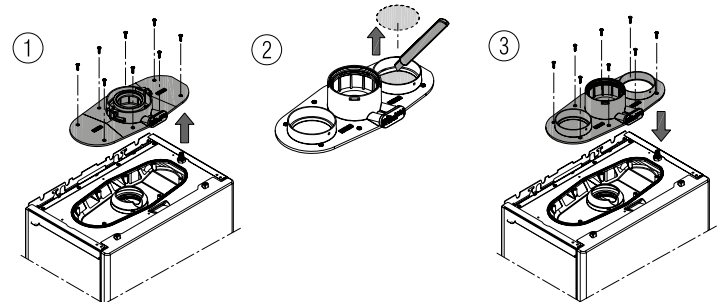
- M** FLOW
- U** DHW OUTLET
- G** GAS
- E** DCW INLET
- R** RETURN

N.B. DISTANCE OF THE CONNECTIONS FROM THE WALL DESIGNED FOR EASY REPLACEMENT, EVEN ON A DIFFERENT CONNECTION SEQUENCE

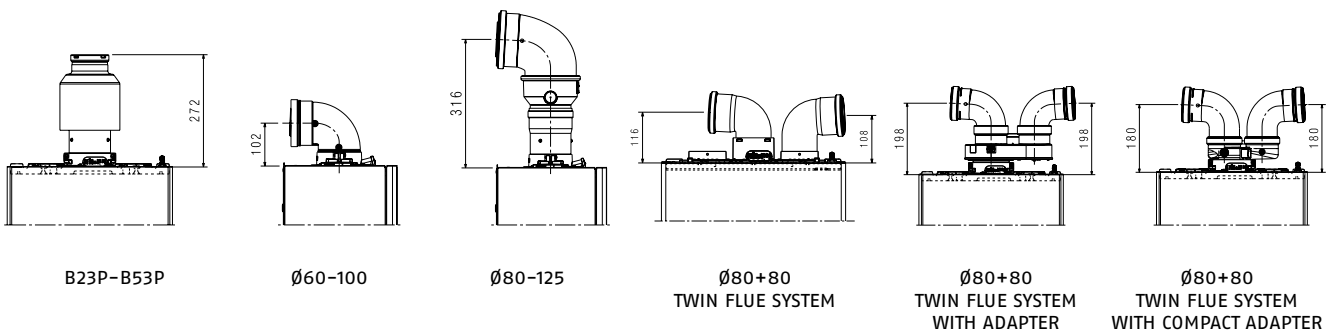
VIEW FROM ABOVE



FLUE GAS FLANGE DISASSEMBLY



FLUE OPTIONS



Note: The boiler is also C10 certified for installation in pressurized collective flues through external kits, available as optional accessories

TECHNICAL DATA

ENERGY LABEL SPECIFICATIONS (in accordance with the ErP Directive)		UoM	25 KIS	30 KIS	35 KIS	20 IS*	30 IS*
Seasonal heating energy efficiency class		D → A+++ ⁽¹⁾	A	A	A	A	A
DHW energy efficiency class		F → A+ ⁽²⁾	A	A	A	-	-
Rated heat OUTPUT according to ErP	pnominal	kW	20	24	29	20	29
Seasonal heating energy efficiency	ηs	%	94	94	94	94	94
USEFUL HEAT OUTPUT							
At rated heat output and high temperature regime **	P4	kW	19,5	24,4	29,3	19,5	29,3
At 30% rated heat output and at low temperature regime ***	P1	kW	6,5	8,2	9,8	6,5	9,8
USEFUL EFFICIENCY							
At rated heat output and high temperature regime **	η4	%	87,9	87,9	87,9	87,9	87,9
At 30% rated heat output and at low temperature ***	η1	%	98,0	98,0	97,9	98,0	97,9
AUXILIARY ELECTRICITY CONSUMPTION							
At full load	elmax	W	30,0	31,1	44,3	30	44,3
Partial load	elmin	W	12,2	13,3	13,6	12,2	13,6
In Stand-by mode	PSB	W	3,7	3,7	3,7	3,7	3,7
OTHER PARAMETERS							
Heat losses in stand-by mode	Pstby	W	29,9	35,2	35,2	29,9	35,2
Annual energy consumption	QHE	GJ	60,0	76,0	91,0	60,0	91,0
Sound power level, indoors	LWA	dB	48,0	45,0	47,0	48,0	47,0
NOx emissions	NOx	mg/kWh	22,0	20,0	35,0	22,0	35,0
FOR COMBINATION HEATERS							
Declared load profile			XL	XL	XL	-	-
Energy efficiency of DHW	ηwh	%	85	85	87	-	-
Daily electricity consumption	Qelec	kWh	0,173	0,138	0,102	-	-
Daily fuel consumption	Qelec	kWh	23,014	23,010	22,524	-	-
Annual electricity consumption	AEC	kWh	38	30	22	-	-
Annual fuel consumption	AEC	GJ	17	17	17	-	-
OTHER TECHNICAL SPECIFICATIONS							
CH INPUT (max-min)		kW	20,0- 2,5	25,0- 3,0	30,0-3,5	20,0-2,5	30,0-3,5
DHW Nominal INPUT (max-min)		kW	25,0-2,5	30,0- 3,0	34,9-3,5	20,0-2,5	34,9-3,5
Power supply voltage		V-Hz	230-50	230-50	230-50	230-50	230-50
Degree of protection		IP	IPX5D	IPX5D	IPX5D	IPX5D	IPX5D
NOx class			6	6	6	6	6
CH							
Maximum pressure-temperature		bar-°C	3-90	3-90	3-90	3-90	3-90
Pump: maximum available head (at the flow rate of 1000 l/h)		mbar	450	450	450	450	450
Membrane expansion vessel capacity		l	9	9	9	9	9
DHW							
Maximum pressure		bar	8	8	8	-	-
DHW production at T= 25°C / 30°C / 35°C		l/min	14,3/11,9/10,2	17,2/14,3/12,3	20,0/16,7/14,3	-	-
DHW minimum flow rate		l/min	2	2	2	-	-
HYDRAULIC and GAS CONNECTIONS							
Inlet gas pressure (G20-G31)		mbar	20-37	20-37	20-37	20-37	20-37
CH Flow-Return / Gas Inlet		∅	3/4"	3/4"	3/4"	3/4"	3/4"
DHW Inlet - Outlet / DHW tank Flow - Return		∅	1/2"	1/2"	1/2"	3/4"	3/4"
DIMENSIONS, WEIGHT							
Boiler Dimensions (HxWxD)		mm	740x275x420	740x275x420	740x275x420	740x275x420	740x275x420
Net weight		kg	29	30	30	28	29
FLUE PIPES AND AIR INTAKE							
Max length for concentric flues (∅60-100 mm)		m	10	8	8	10	8
Max. length for twin flues (∅80+80 mm)		m	69+69 (A)	36+36 (B)	36+36 (B)	69+69 (A)	36+36 (B)

(1) The energy efficiency class range of this product category is from D up to A+++.

(2) The energy efficiency class range of this product category is from F up to A+.

* 'Heating Only' models are equipped with a 3-way valve and do not include a filling tap.

** High temperature regime means: 60°C Return and 80°C Flow of the boiler.

*** Low temperature regime means: for condensing boilers 30°C, for low temperature boilers 37°C, for other heaters 50°C Return temperature.

A) Up to 75+75 m with swiveling adapter available as option.

B) Up to 39+39 m with swelling adapter available as option.

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RESIDENCE HM

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