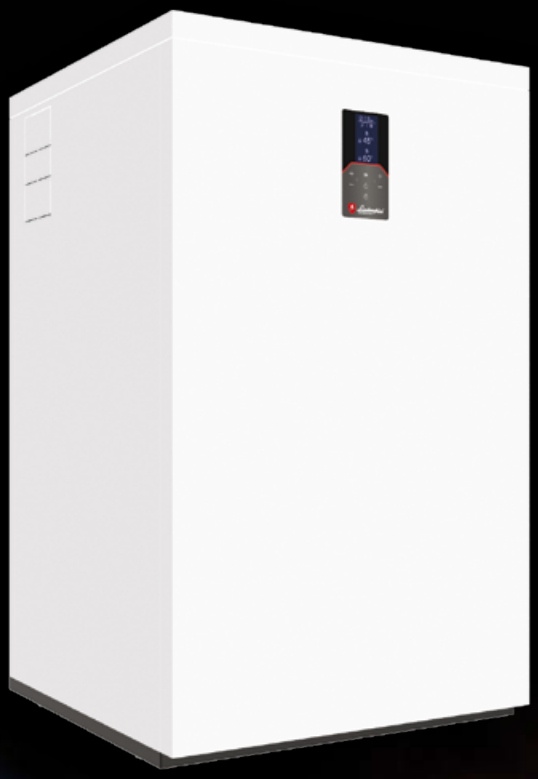
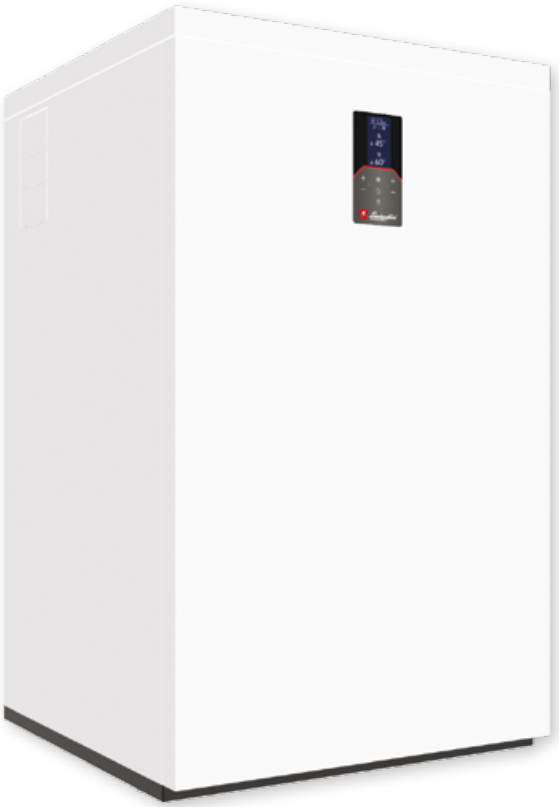
Lamborghini CALORECLIMA



Alhena Tech B K 50

Condensation base boiler, stainless steel sanitary storage

ALHENA TECH B K 50: EVOLUTION IS COMPLETE



The new range of ALHENA TECH B K 50 base boilers, with 50-litre stainless steel sanitary storage, is able to meet the demands of the most demanding customers in terms of sanitary water production and more.

The 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 ηs 94%** among the highest in the category (Class A ErP) and the **combination with the Connect remote control**, able to read the outdoor temperature directly from the internet, **it reaches the A⁺** system energy class.

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

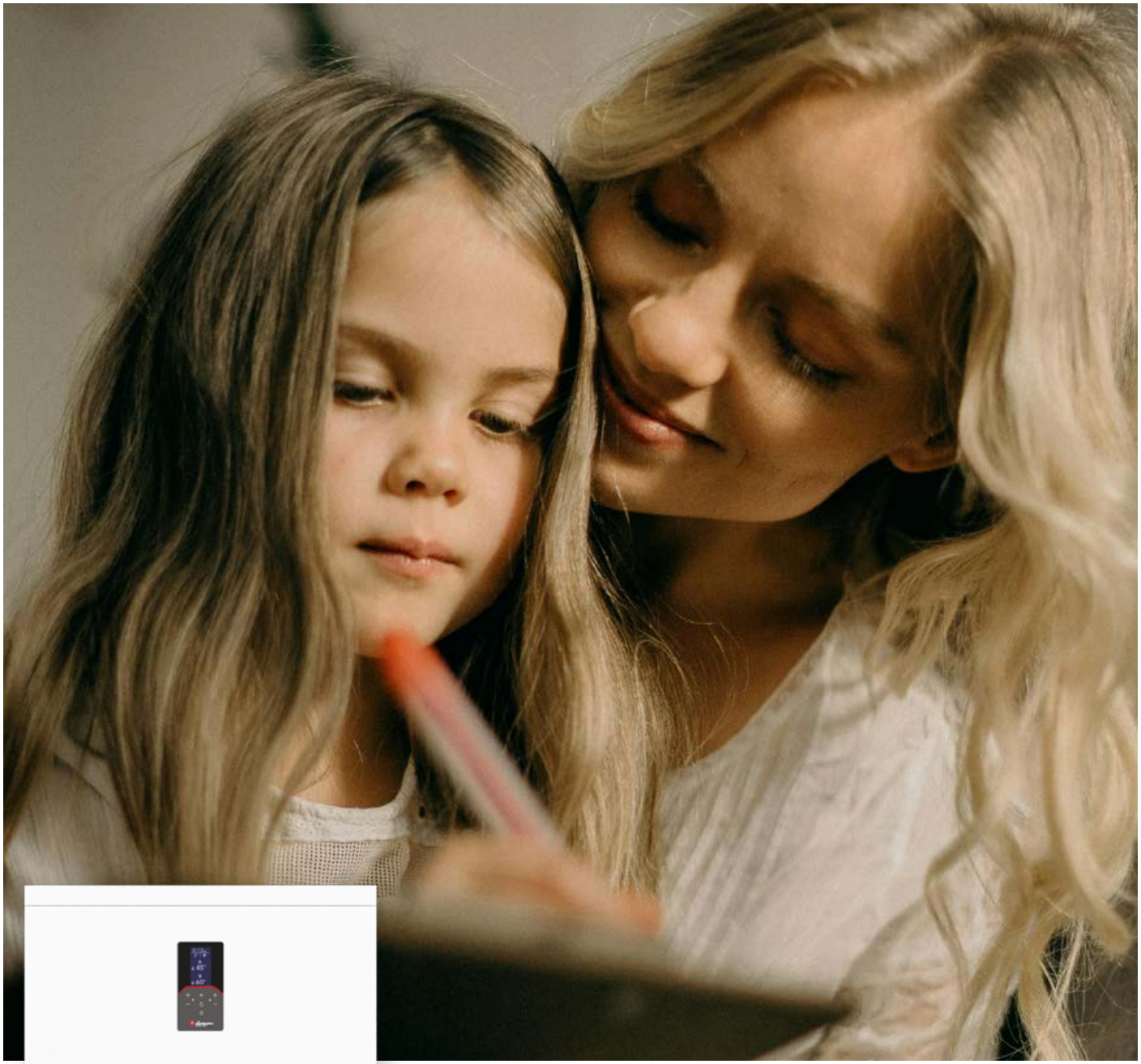
It consists of a model that operates with both methane and LPG

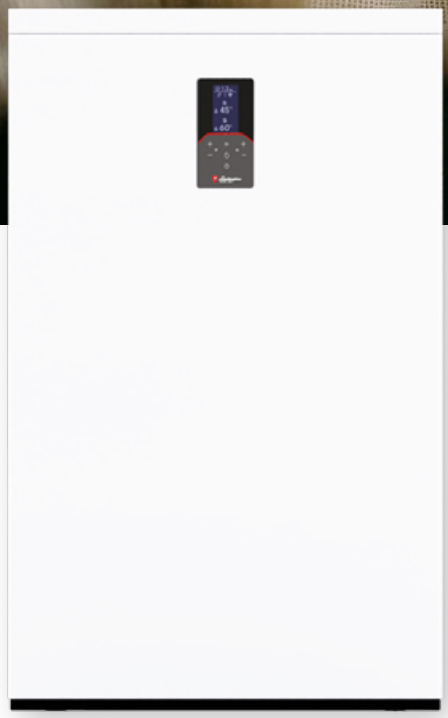
mod. 34

COMBINED (206 l/h at Δt 30°C)

Alhena Tech B K 50 | Connect / CRM N - Cronorem | External Probe | Energy class of system A⁺

TOP QUIETNESS
FOR MAXIMUM HOME COMFORT





The particularly careful design of ALHENA TECH B 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 full 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.

ALHENA TECH B K 50
INSIDE VIEW

USER INTERFACE

With “Capsense” technology and 2.8” graphic display

HEAT EXCHANGER

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

BURNER

Exclusive special **stainless steel hemispherical burner** with **long-life gasket**

BURNER DOOR

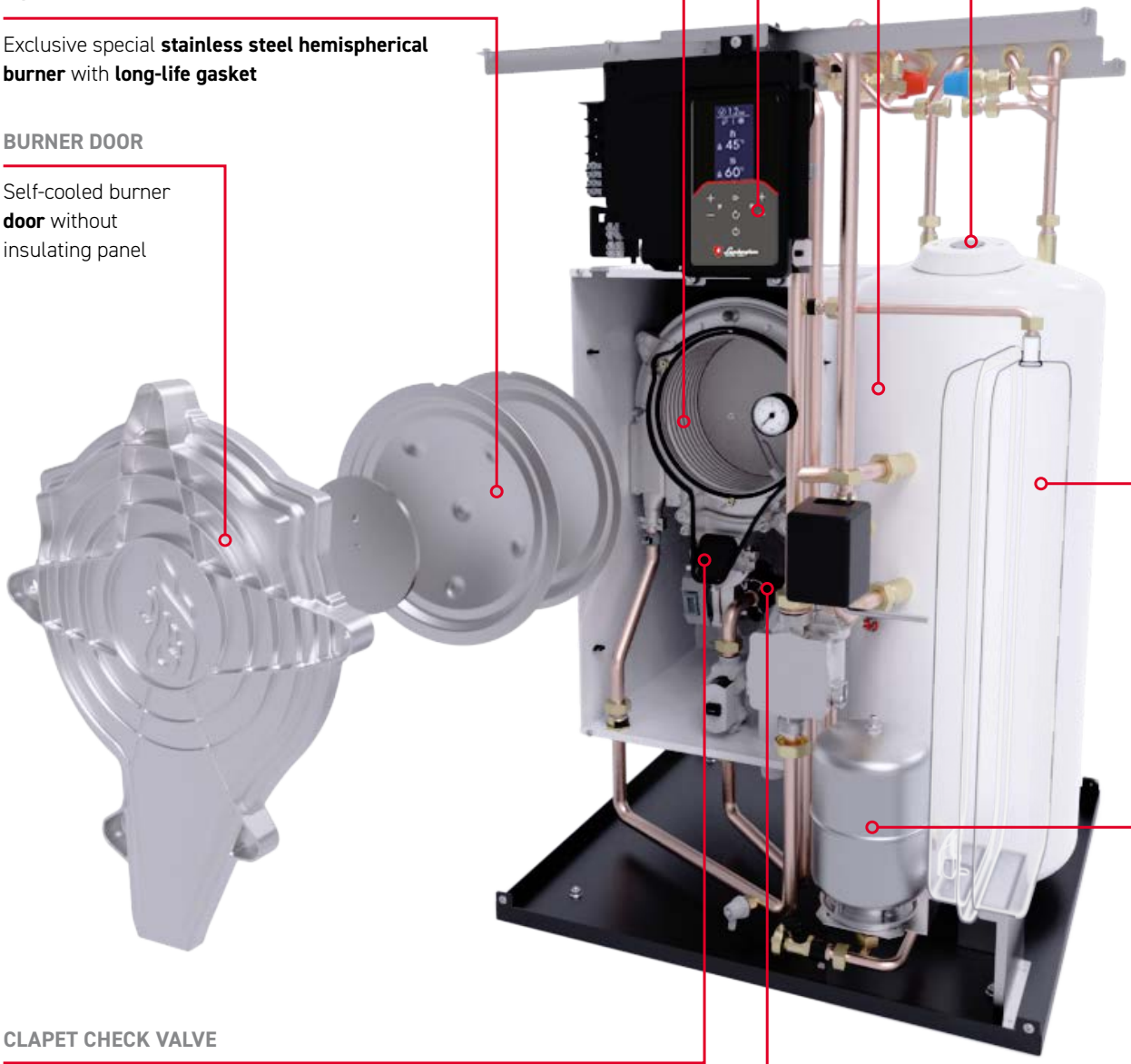
Self-cooled burner **door** without insulating panel

BOILER

Stainless steel holding **50 litres,** insulated

BOILER GUARD

Magnesium anode



TANK

Heating vase from 10 litres

TANK

Sanitary water vase from 2 litres

CLAPET CHECK VALVE

Integrated flue gas clapet for connection to pressurised collective flue systems

VENTILATOR

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

CHARACTERISTICS
PRODUCT BENEFITS

- **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
- SYSTEM: thanks to the combination of the **CONNECT** modulating remote control and the reading of the external temperature directly from the internet, it achieves maximum **energetic efficiency of A+**
- **MC²: M**ulti **C**ombustion **C**ontrol, 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: M**ethane **L**pg **R**eady, 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
- Preparation for **recirculation attacks**
- **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
- **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: F**lue **P**rotection **S**ystems. 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**
- **"Range Rated" certified generator:** the maximum thermal flow in heating can be adapted to the thermal demand of the system while maintaining the efficiency values declared in the approval

THE PRODUCT IN A NUTSHELL

THERMO BALANCE

Lamborghini CaloreClima "Thermobalance"™ exclusive integrated thermal unit

H2 HYDROGEN PLUG-IN

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

HEAT EXCHANGER STAINLESS STEEL

Stainless steel high-performance monothermal primary heat exchanger

PROTECTED −5°C

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

EASY MAINTENANCE

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

RANGE 1:10

Modulation ratio between **Pmax** and **Pmin**

METHANE LPG READY M L R

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

CLIMATIC

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

MULTI COMB. CONTROL m C²

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

COLLECTIVE IN PRESSURE F P S

F.P.S: Flue **P**rotection **S**ystems. The flue gas check valve allows an **easy connection to collective pressurised flue systems** (e.g. in renovations), in compliance with the UNI 7129 standard

FLUES Ø 50 mm 50

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

ETA$_s$ 94% 94

Achieves a seasonal space heating efficiency among the highest in its category: η_s 94%

REMOTE

Remote control of boiler parameters via remote control

RANGE RATED η

The appliance is **"range rated"** certified according to EN 15502

BOILER CONTROL
CONTROL PANEL AND FUNCTIONS

The 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.

EASY CONTROL

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

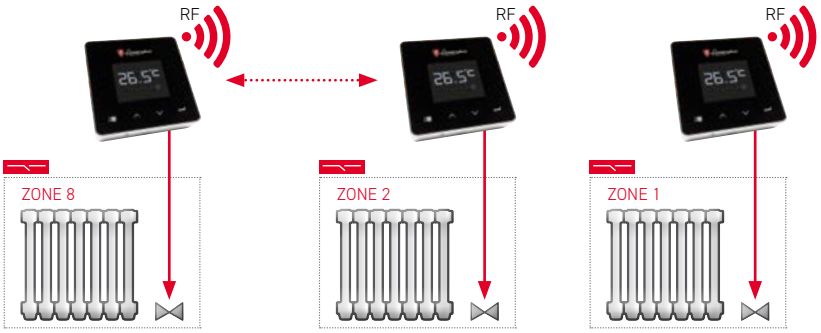
CONNECT
REMOTE CONTROL

- 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 environmental 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

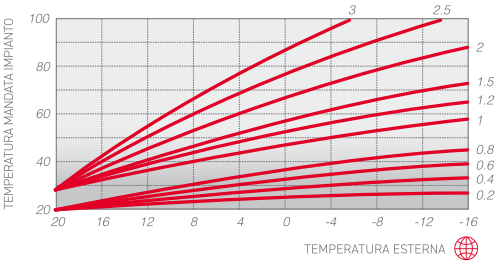
Commando


RF/Wifi Receiver

MULTI-ZONE MANAGEMENT

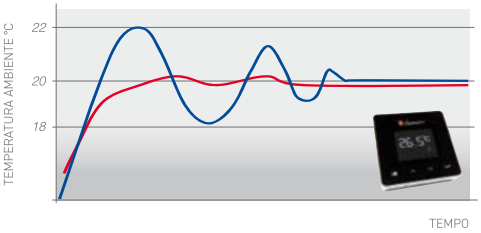


CLIMATE COMPENSATION



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.



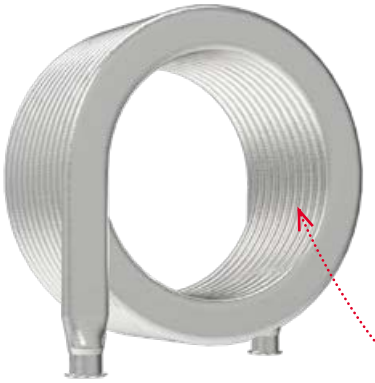
CCA ENVIRONMENT CLIMATE COMPENSATION

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.

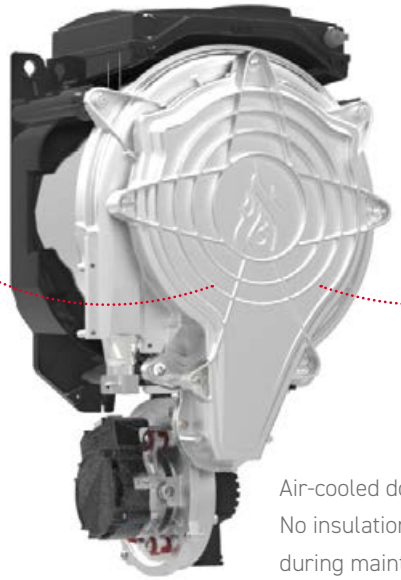
WITH REMOTE CONTROL CONNECT
WITH NON-MODULATING ROOM THERMOSTAT

THE ENGINE
COMBUSTION CELL

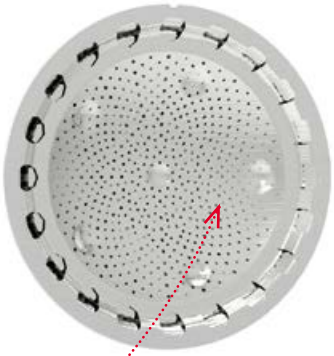
The tube that makes up the ALHENA TECH B K 50 heat exchanger is made of **stainless steel**, a material that makes it possible to obtain an **extremely smooth surface**, therefore less susceptible to fouling agents and deposits.



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



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



Exclusive hemispherical stainless steel burner

TOP EFFICIENCY
EVEN ON OLD SYSTEMS (REPLACEMENTS)

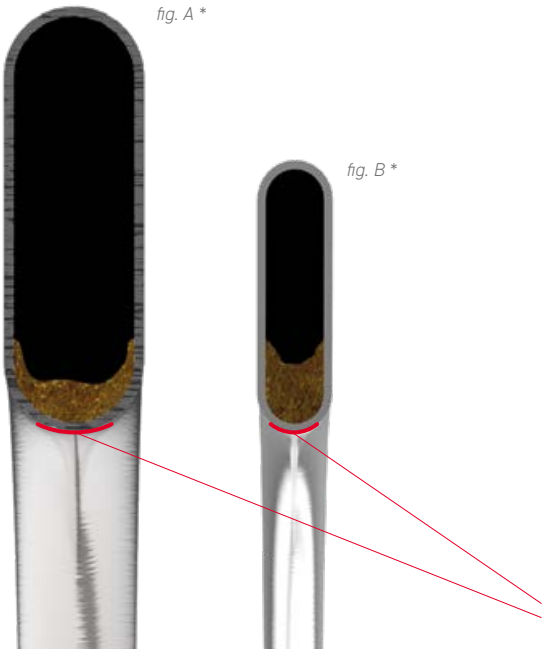


*fig. A **

*fig. B **

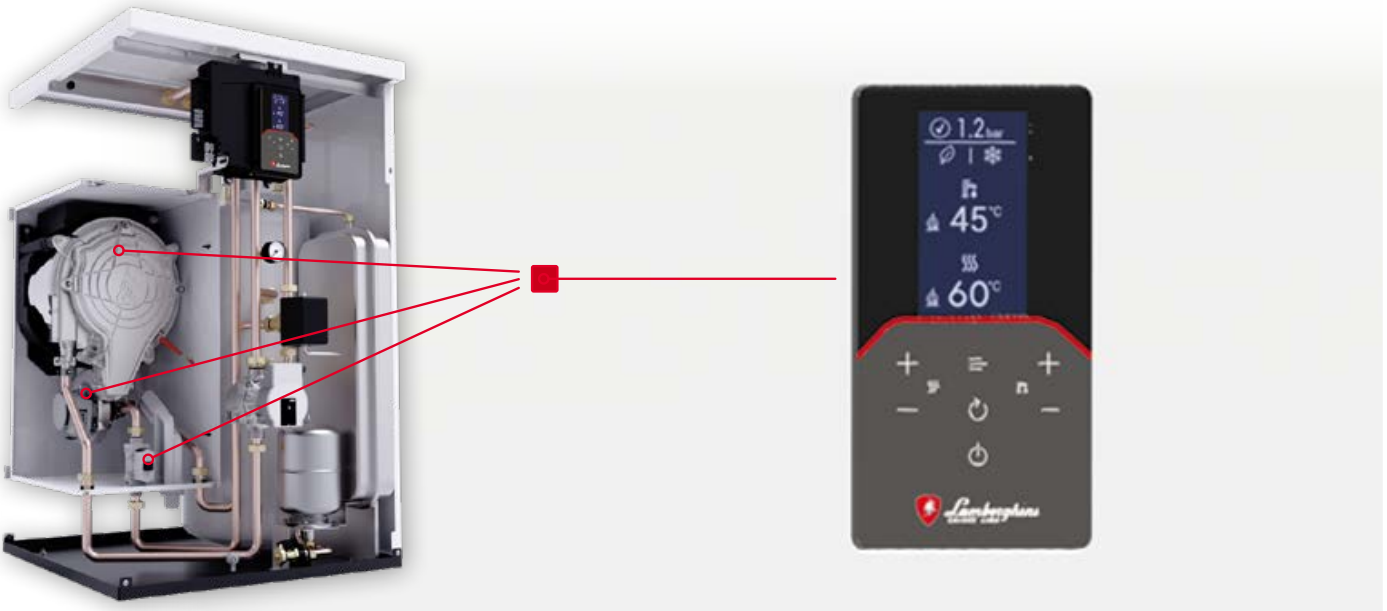
The geometry of the heat exchanger of the **THERMOBALANCE ™** thermal unit of ALHENA TECH B K 50 **(figure A) allows almost maximum operation of the design efficiency even in conditions of partial clogging**, while with the same amount of deposits and sediments (e.g. due to installation on old systems), the traditional heat exchanger in **figure B** tends to clog much faster in the part in contact with the flame due to the reduced fluid passage area, in which a real barrier of deposits* is formed that hinder heat exchange and reduce efficiency below 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

MC²
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 (λ) and the flame ionisation signal is used to control the air/gas ratio itself and therefore the combustion. **MC²: 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).



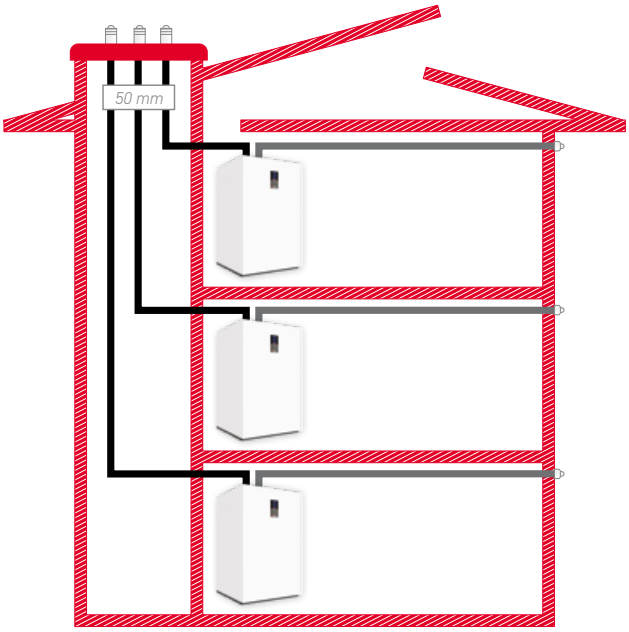
EASY MAINTENANCE
TROUBLE-FREE MAINTENANCE

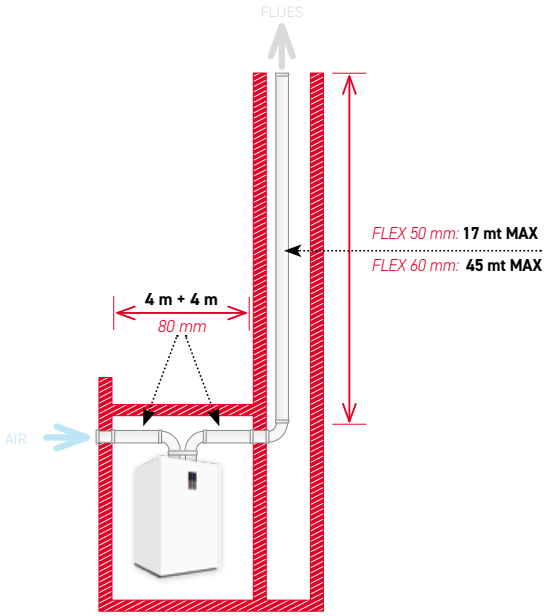
At the time of the first maintenance, the technician can see the care with which every detail has been designed to facilitate their work. Thanks to the maximum accessibility of the main components, the **"Thermobalance"™ thermal unit** allows for extremely precise and quick maintenance.
Some examples:

- 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 below, 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
- 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 Ø 50 MM

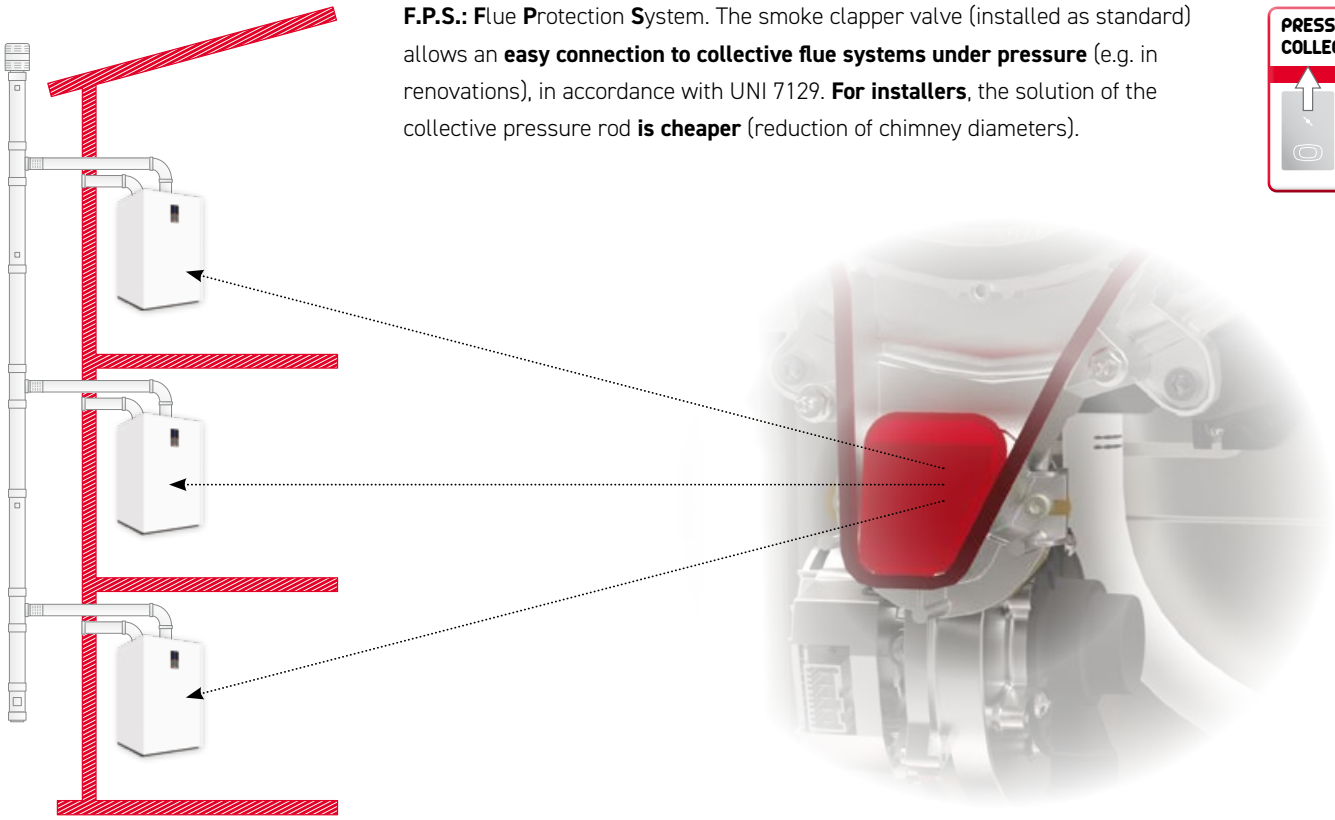
The new boiler can also be installed with 50mm diameter intubation drains.
Particularly important in **the replacement market** in the frequent case of collective flues that require **"heavy" intubation** where it is necessary to have a **high flue gas expulsion capacity** even with reduced diameters.





PRESSURE COLLECTORS

F.P.S.: Flue **P**rotection **S**ystem. 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).



LAMBORGHINI FAMILY LINE

A COMPLETE RANGE

ALHENA

24C - 28C - 34C

RANGE 1:7

H2 HYDROGEN PLUG-IN

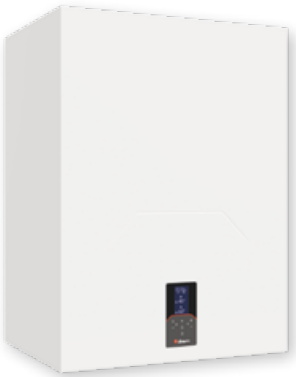
ALHENA TECH

24C - 28C - 34C - 28H - 34H - 45H

RANGE 1:10

H2 HYDROGEN PLUG-IN

THERMO BALANCE



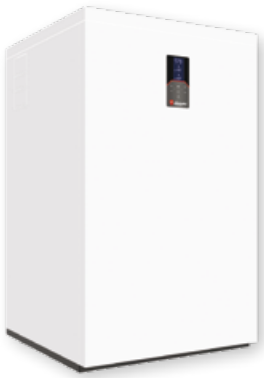
ALHENA TECH K 50

28 - 34

RANGE 1:10

H2 HYDROGEN PLUG-IN

THERMO BALANCE



ALHENA TECH B K 50

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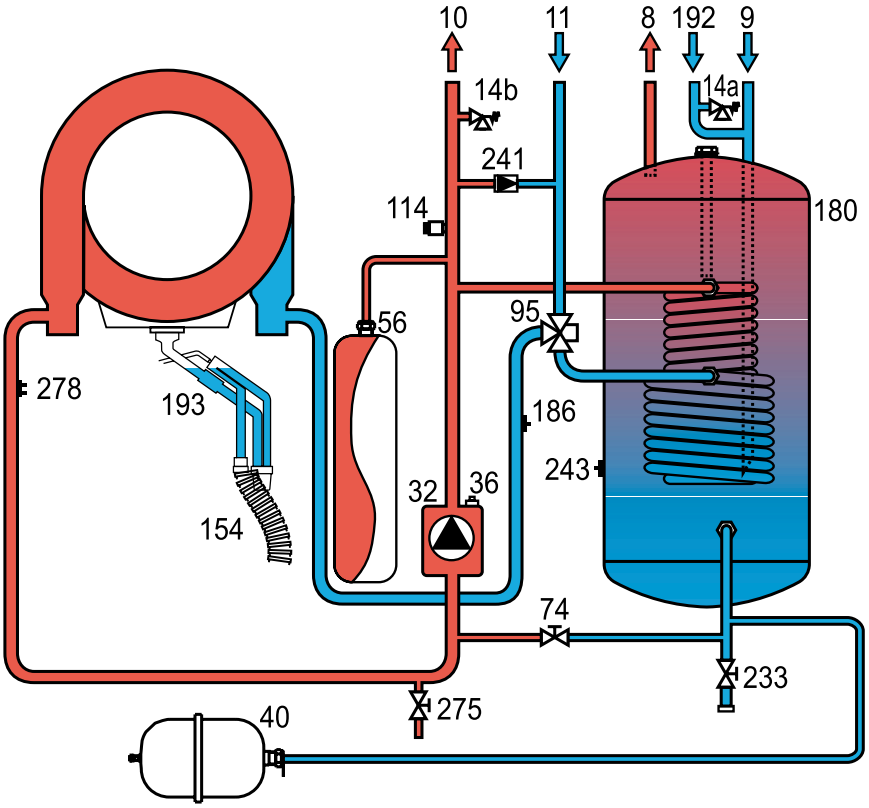
RANGE 1:10

H2 HYDROGEN PLUG-IN

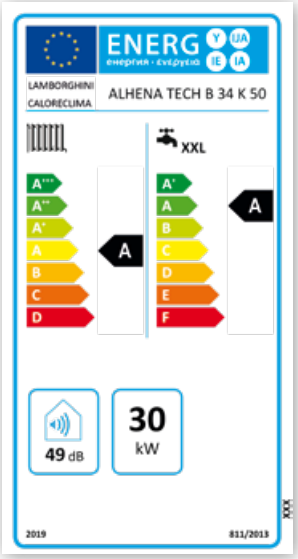
THERMO BALANCE

CHARACTERISTICS

HYDRAULICS - ENERGY LABEL

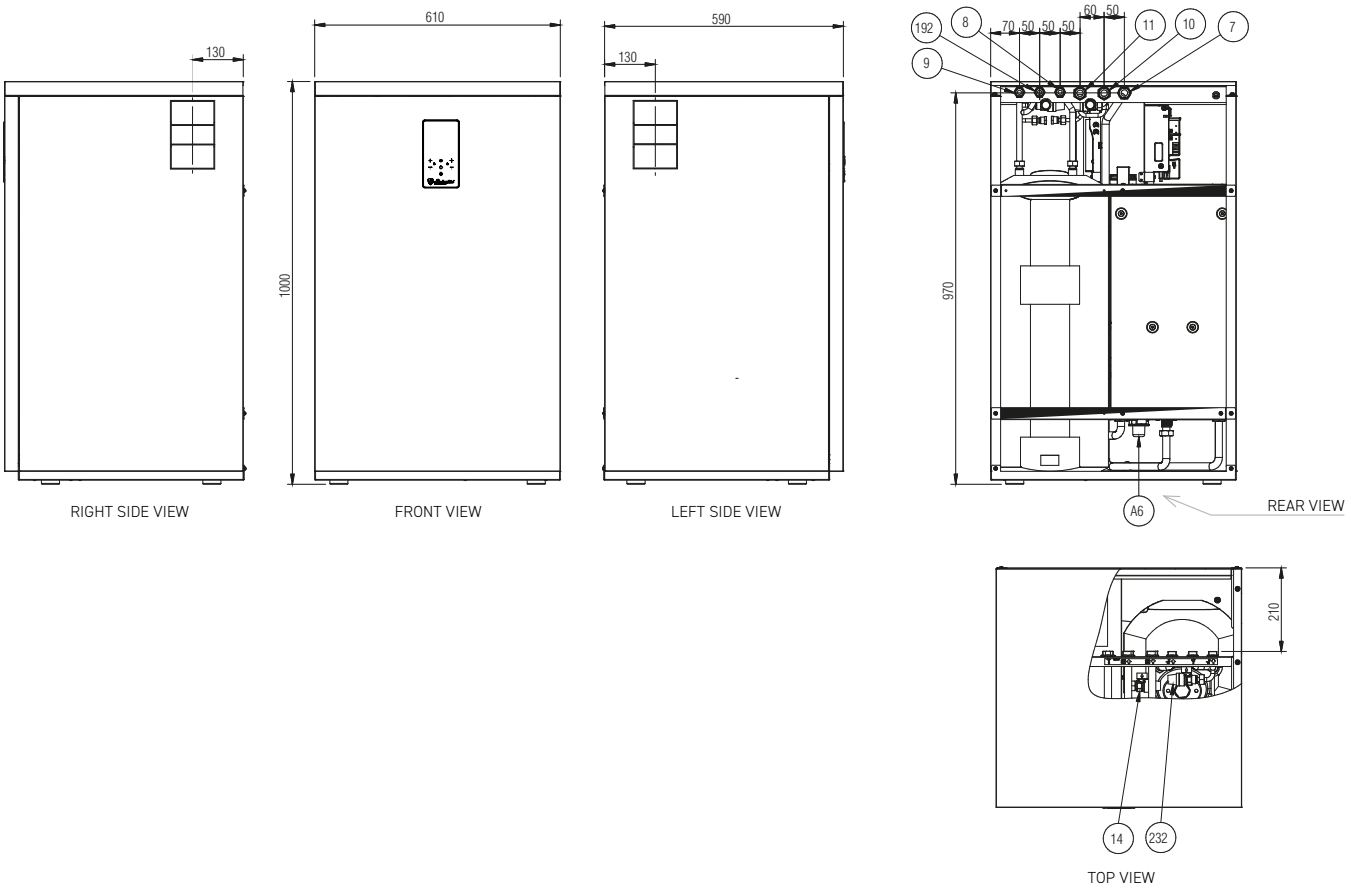


LEGEND 8 Domestic hot water outlet **9** Domestic hot water inlet **10** System delivery **11** System return **14a** Domestic hot safety valve **14b** System safety valve **32** Heating circulator **36** Automatic air vent **40** Domestic hot water expansion vessel **56** Expansion vessel **74** System fill tap **95** Diverter valve **114** Water pressure switch **154** Condensate drain tube **180** Boiler **186** Return sensor **192** Recirculation **193** Siphon **233** Boiler drain tap **241** Automatic bypass **243** Boiler temperature sensor **275** Heating system drain tap **278** Double sensor (Safety + Heating)



TECHNICAL DATA

DIMENSIONS - LOAD LOSSES/HYDRAULIC HEAD



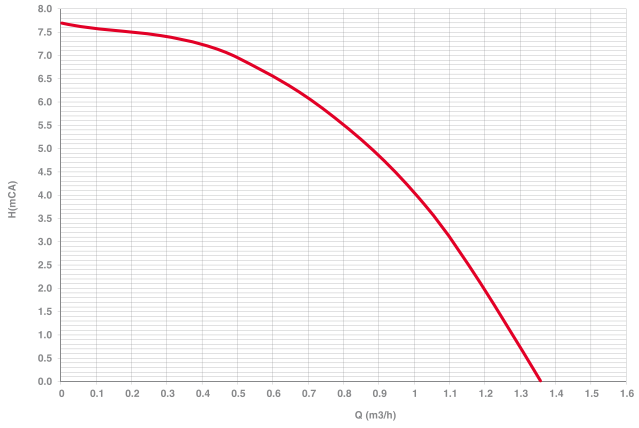
RIGHT SIDE VIEW

FRONT VIEW

LEFT SIDE VIEW

TOP VIEW

LEGEND 7 Gas inlet - ø 3/4" **8** Domestic hot water supply - ø 1/2" **9** Domestic hot water inlet - ø 1/2" **10** System supply - ø 3/4" **11** System return - ø 3/4" **14** Heating safety valve **192** Recirculation - ø 1/2" **232** Domestic hot water safety valve **A6** Condensate drain connection



TECHNICAL DATA
SUMMARY TABLE

ALHENA TECH B K 50		34
ERP Class		
		
Max. heating thermal input	kW	30.6
Min. heating thermal input	kW	3.5
Max. heating thermal output (80 / 60°C)	kW	30.0
Min. heating thermal output (80 / 60°C)	kW	3.4
Max. heating thermal output (50 / 30°C)	kW	32.5
Min. heating thermal output (50 / 30°C)	kW	3.8
Max. domestic hot water thermal input	kW	34.7
Min. domestic hot water thermal input	kW	3.5
Max. domestic hot water thermal output	kW	34.0
Min. domestic hot water thermal output	kW	3.4
Pmax efficiency (80 / 60°C)	%	97.9
Pmin efficiency (80 / 60°C)	%	98.0
Pmax efficiency (50 / 30°C)	%	106.1
Pmin efficiency (50 / 30°C)	%	107.5
Efficiency 30%	%	109.6
Leaks to the chimney with burner ON (80 / 60°C)	Pmax / Pmin %	2.02 / 1.47
Leaks to the cover with burner ON (80 / 60°C)	Pmax / Pmin %	0.26 / 1.44
Leaks to the chimney with burner ON (50 / 30°C)	Pmax / Pmin %	0.92 / 0.61
Leaks to the cover with burner ON (50 / 30°C)	Pmax / Pmin %	0.6 / 1.05
Leaks to the chimney with burner OFF (50K / 20K)	%	0.02 / 0.01
Leaks to the cover with burner OFF (50K / 20K)	%	0.15 / 0.06
Flue gas temperature (80/60 °C) - Pmax / Pmin	°C	66 / 60
Flue gas temperature (50/30 °C) - Pmax / Pmin	°C	52 / 45
Flue gas flow - Pmax/Pmin	g/s	14.0 / 1.7
Supply gas pressure G20	mbar	20
Gas nozzle G20	Ø	-
Gas flow rate G20 - max / min	m^3/h	3.67 / 0.4
CO_2 - G20	%	9 ± 0.8
Supply gas pressure G31	mbar	37
Gas nozzle G31	Ø	-
Gas flow rate G31 - max / min	kg/h	2.7 / 0.3
CO_2 - G31	%	10 ± 0.8
NOx emission class		6 (< 56 mg/kWh)
Max Heating Operating Pressure	bar	3.0
Min Heating Operating Pressure	bar	0.8
Max. heating adjustment temperature	°C	95
Heating water content	litres	4.2
Heating Expansion Tank Capacity	litres	10
Heating expansion tank preload pressure	bar	0.8
Max Domestic Hot Water Operating Pressure	bar	9.0
Min Domestic Hot Water Operating Pressure	bar	0.3
Continuous domestic hot water input Δt 25°C	l/min	19.5
Continuous domestic hot water input Δt 30°C	l/min	16.2
Domestic hot water content	litres	41
Specific input in 10 min (Δt 30°C)	litres	206
Protection rating	IP	IPX4D
Supply voltage	V/Hz	230V~50Hz
Electric power absorbed	W	105
Empty weight	kg	65.0
Type of appliance	-	C(10)3-C(11)3-C13-C23-C33-C43-C53-C63-C83-C93-B23-B33
Chimney installation pressure C(10)3-C(11)3	Pa	94.0

NOTES

Lamborghini CALORECLIMA

The illustrations and data provided are indicative. Lamborghini CaloreClima reserves the right to make any changes deemed to be most appropriate for the improvement of the product or of the service offered without being obliged to give prior notice.

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