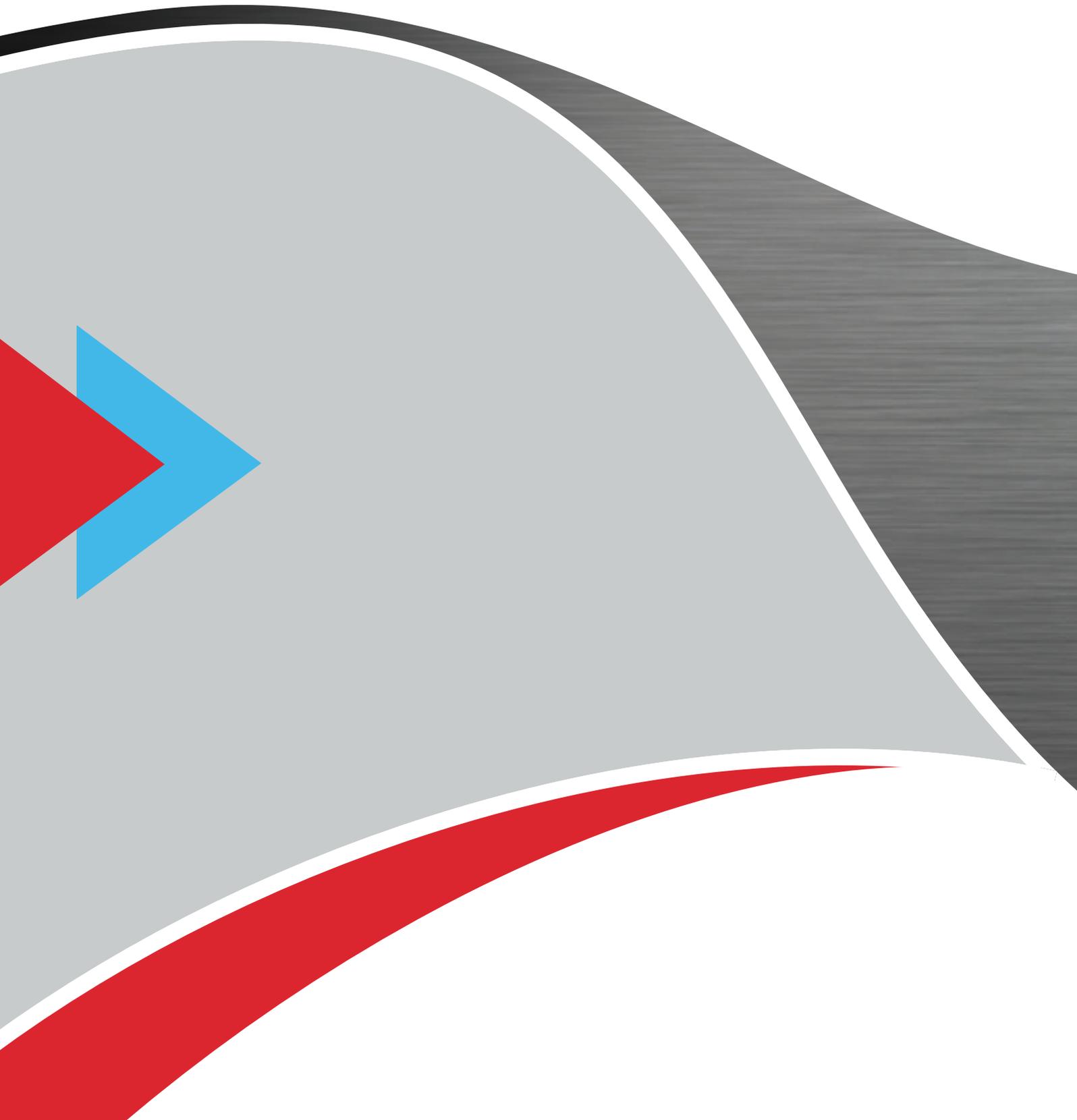
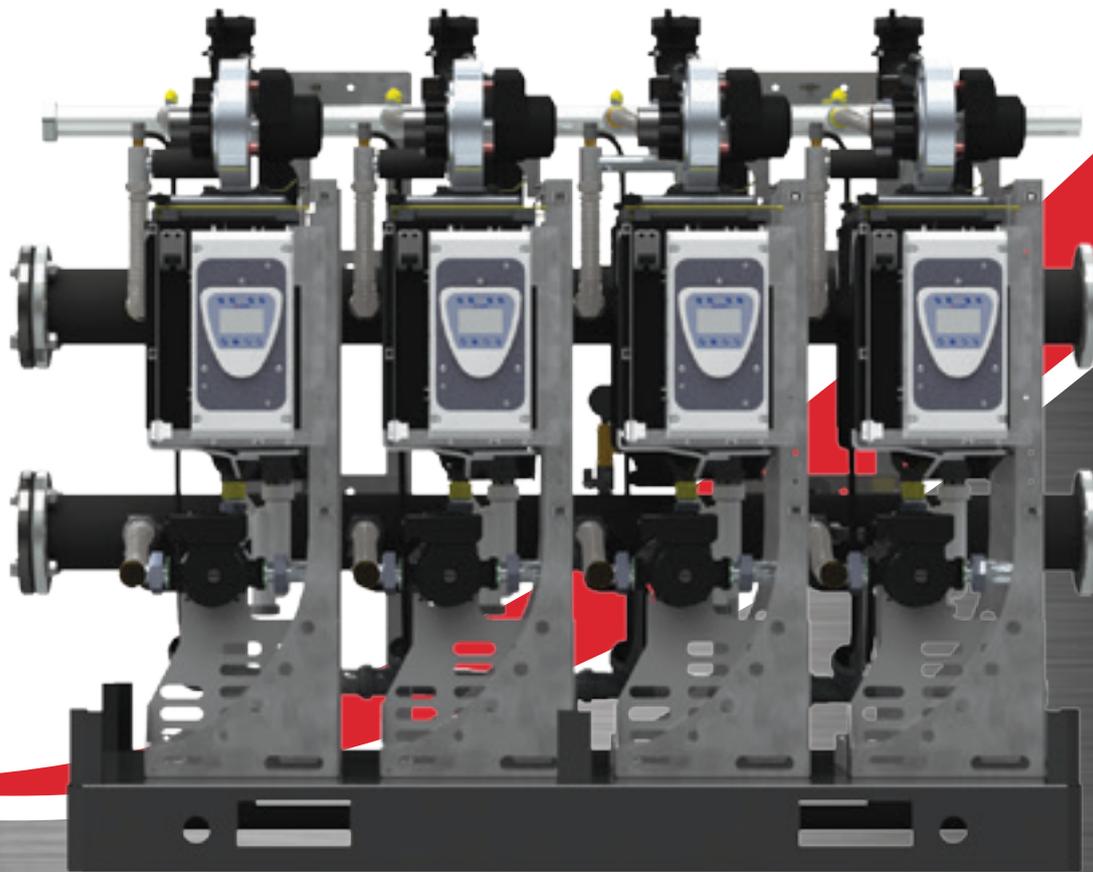


L.H.E.M.M. &
L.H.E.M.M. MK

Light Heat Exchanger Multi Module





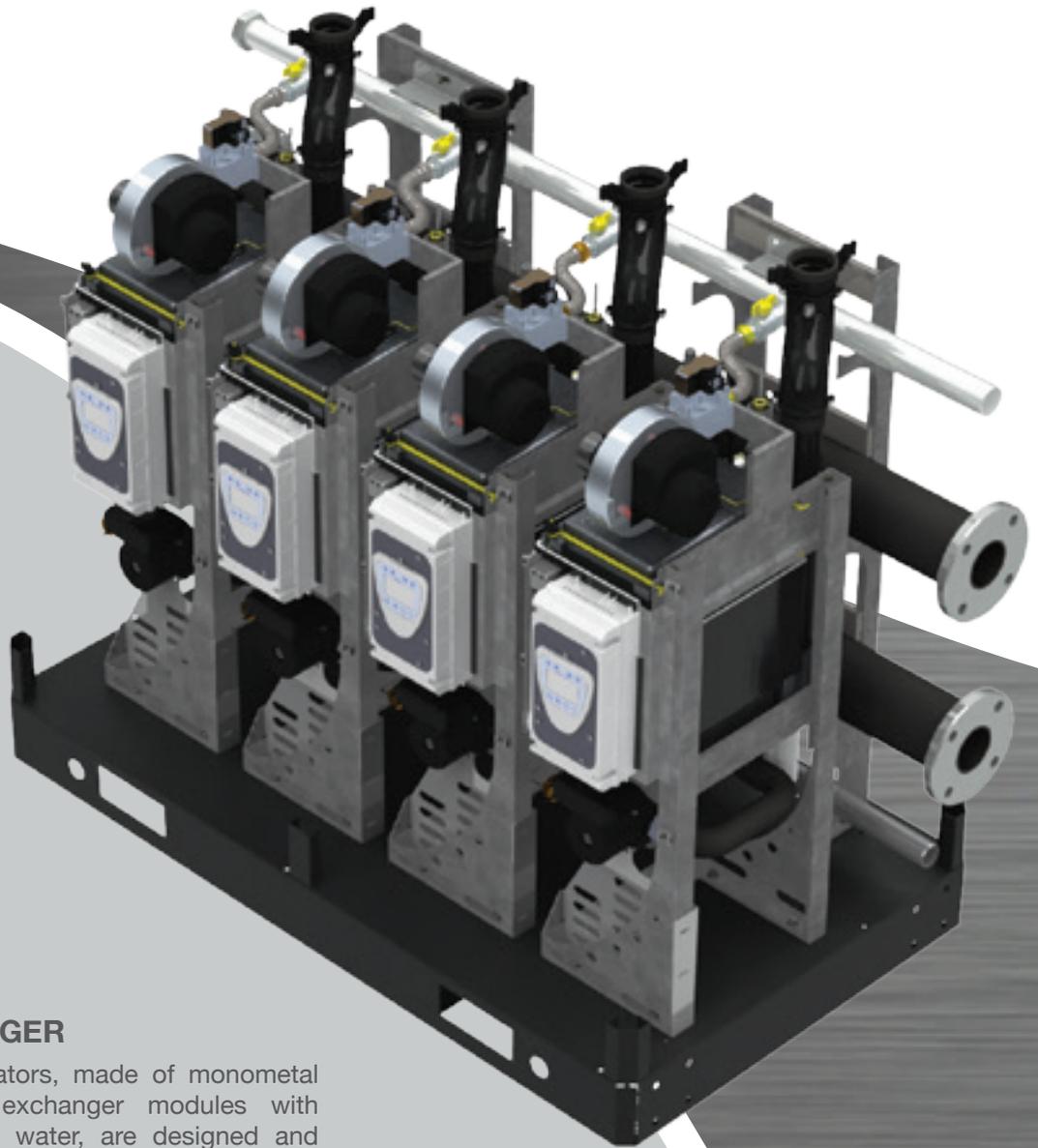
■ L.H.E.M.M. M65 (Light Heat Exchanger Multi Module)

The **L.H.E.M.M.** is a condensing heat generator for indoor installation, consisting of several elements completely preassembled and independent from each other. This construction philosophy allows to achieve a very high ratio of power modulation, and therefore the maximum functional and logistic versatility: for instance, full maintenance cycles can be carried out without interrupting the system operation, thus making the **L.H.E.M.M.** a real continuous service system. The **L.H.E.M.M.** condensing heat generator is therefore irreplaceable

where a constantly high efficiency and the highest degree of reliability are needed.

The system integrates the collectors for the transport of water and fuel, making the installation quick and easy, and optimizing the available space in the boiler room.

The heat generator **L.H.E.M.M.** is designed and produced in order to simplify the installation and management of medium power installations; it relieves the operators from problems of assembly and installation, and it drastically reduces the possibility of errors.



■ HEAT EXCHANGER

Single heat generators, made of monometal (aluminum) heat exchanger modules with a high content of water, are designed and manufactured to ensure the highest reliability. All this has been fulfilled in an unconventional way, through the wise use of the materials, placing them in a way to exploit their best features of mechanical and thermal stress and heat exchange to achieve the maximum reliability, strength and efficiency.

The reverse flame combustion system is obtained with exclusive burners especially designed to ensure a perfect use of fuel at any power rate, producing low emissions and making the **L.H.E.M.M.** system admitted even in the presence of particularly restrictive emission standards.



■ CONTROL SYSTEM

The necessary synchronization between the various heating groups forming the **L.H.E.M.M.** is guaranteed by an integrated logic which is fully configurable and allows the user to arrange the system for supporting several types of appliances.

The system is equipped with a sophisticated logic which makes the designer, the installer and the system manager free from the most common limitations such as: the integration with cooling systems, single stadium generators and renewable energy systems; the management of multiple mixed circuits and systems for domestic hot water production, circulation, etc., now manageable without any need to provide the **L.H.E.M.M.** system with additional accessories or modifications.

Furthermore, in order to optimize the versatility and control of the entire system, each module has been provided with management program, which not only allows to accurately and timely control the functional parameters, but also the sensitive parameters through a double safety system by quickly intervening in case of any fault on each single module.

■ MODULAR SYSTEM

The compactness of the **L.H.E.M.M.** system and the wide power range from 114 to 520 kW, together with the versatility of this system, make this heat generator perfect for quick, efficient and sustainable installations.

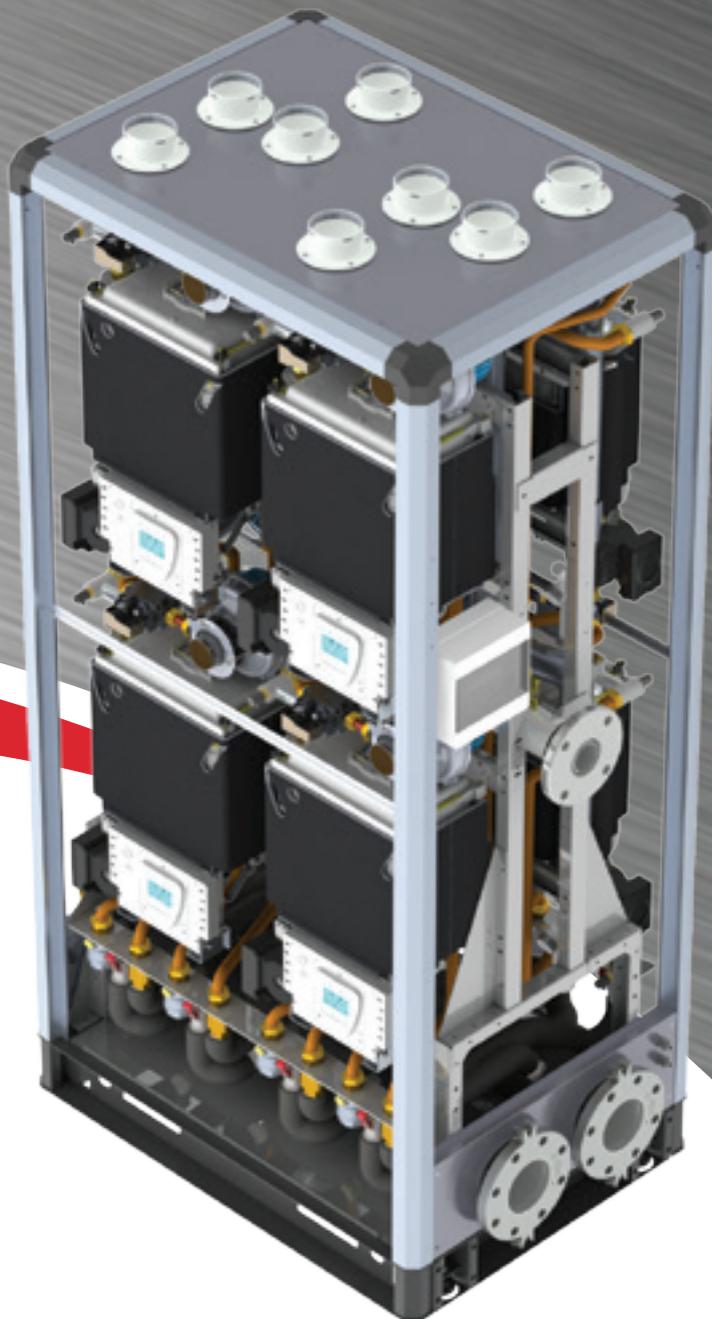
Its high modularity allows to equip the **L.H.E.M.M.** generator with all the accessories necessary for the maintenance and control of equipment such as hydraulic separators, heat exchangers, boosters, and all the safety devices required by law.

The design philosophy also allows the free the placement of various devices with respect to the generator, so that the **L.H.E.M.M.** generator, thanks also to its small dimensions, can be placed where the lack of space would make any other installation difficult.

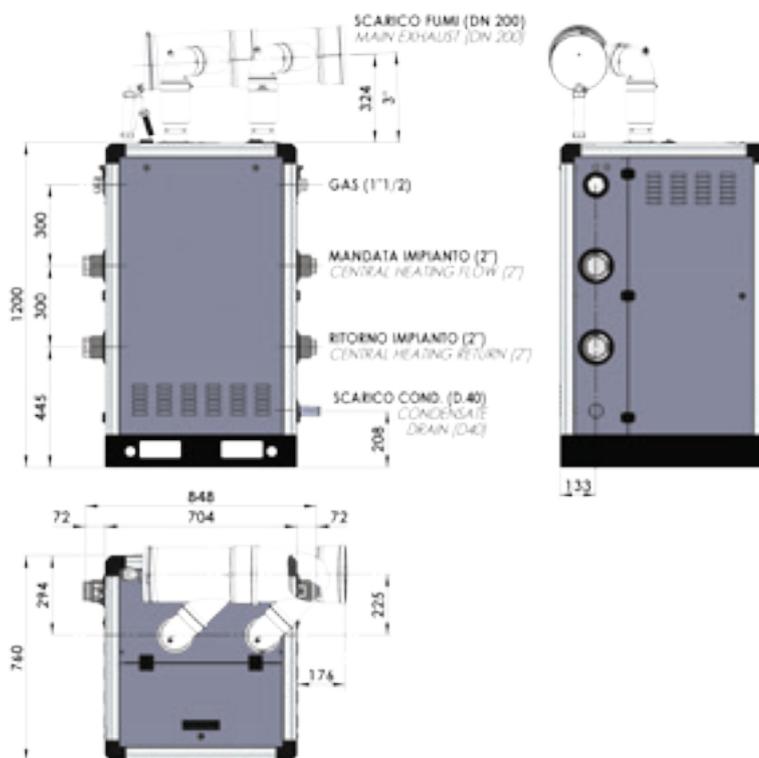
■ OPTIMIZATION

The intelligent combination of the elements making up the machines of the LHEMM MK series, allows to reach large installation capacities and great accessibility in spaces which were unimaginable until today.

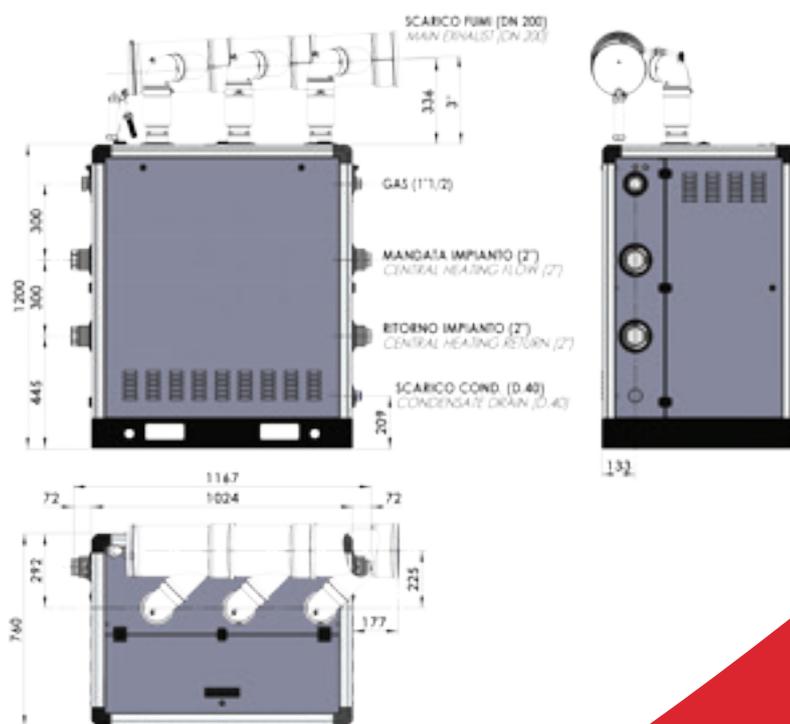
The attention with which we observe, plan and construct, allows us and all our partners a wide range of choices in dealing with any problem of installation and commissioning in mid-high power plants.



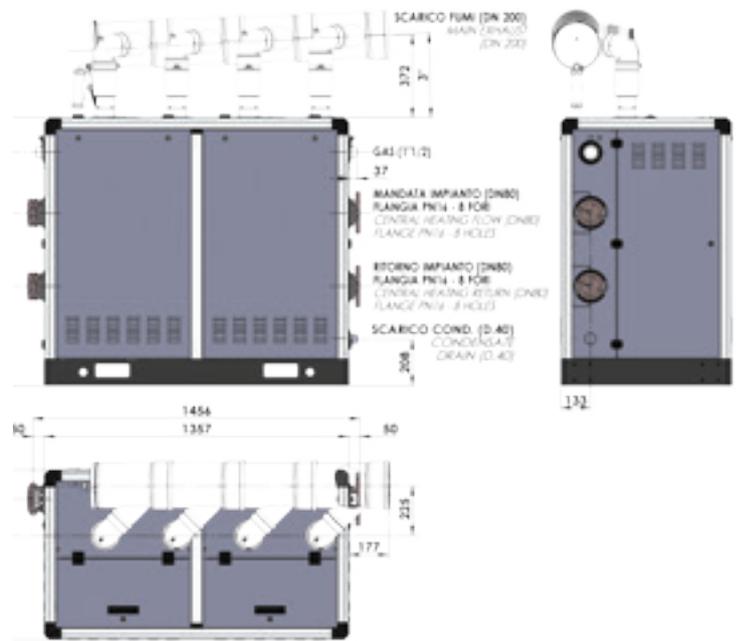
L.H.E.M.M. GENERATOR 114-130 KW



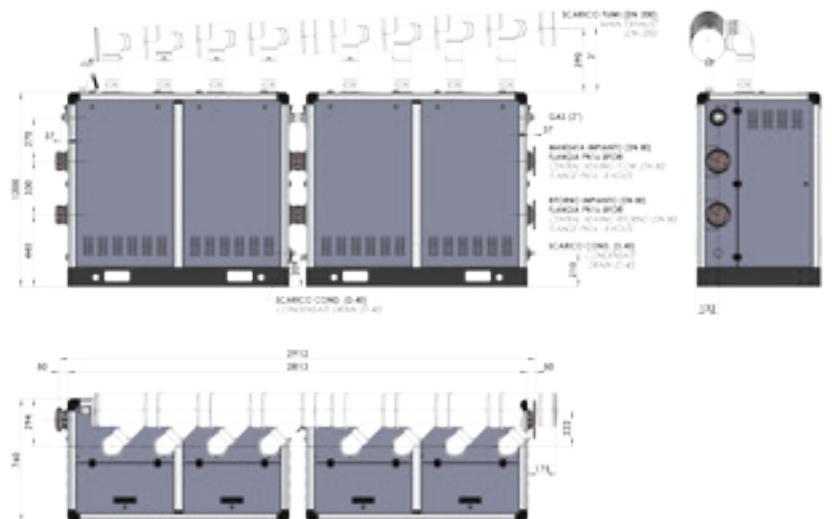
L.H.E.M.M. GENERATOR 195 KW



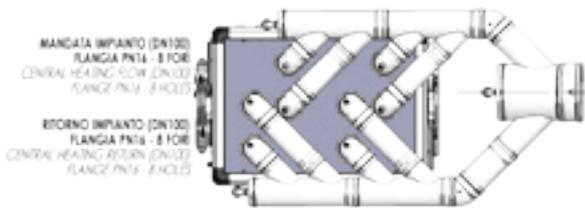
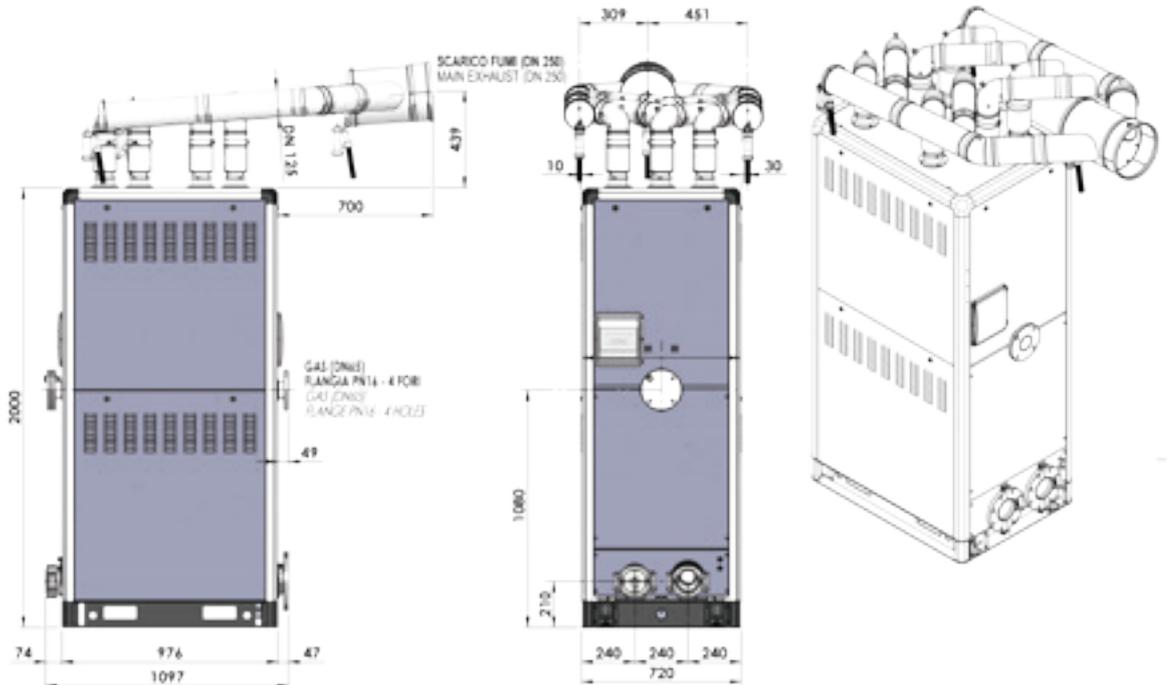
L.H.E.M.M. GENERATOR 260 KW

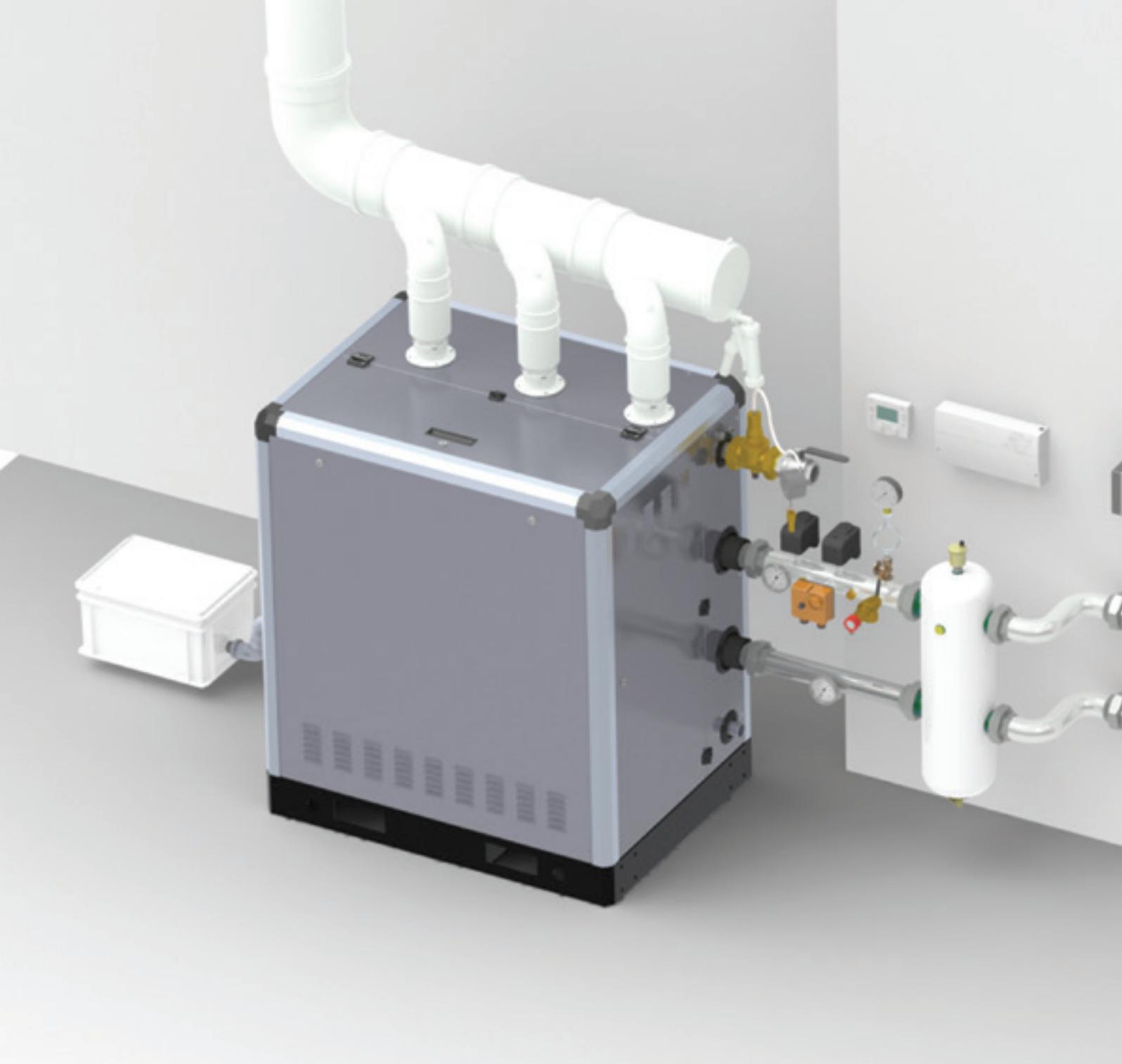


L.H.E.M.M. GENERATOR 520 KW



L.H.E.M.M. GENERATOR MK 520 KW





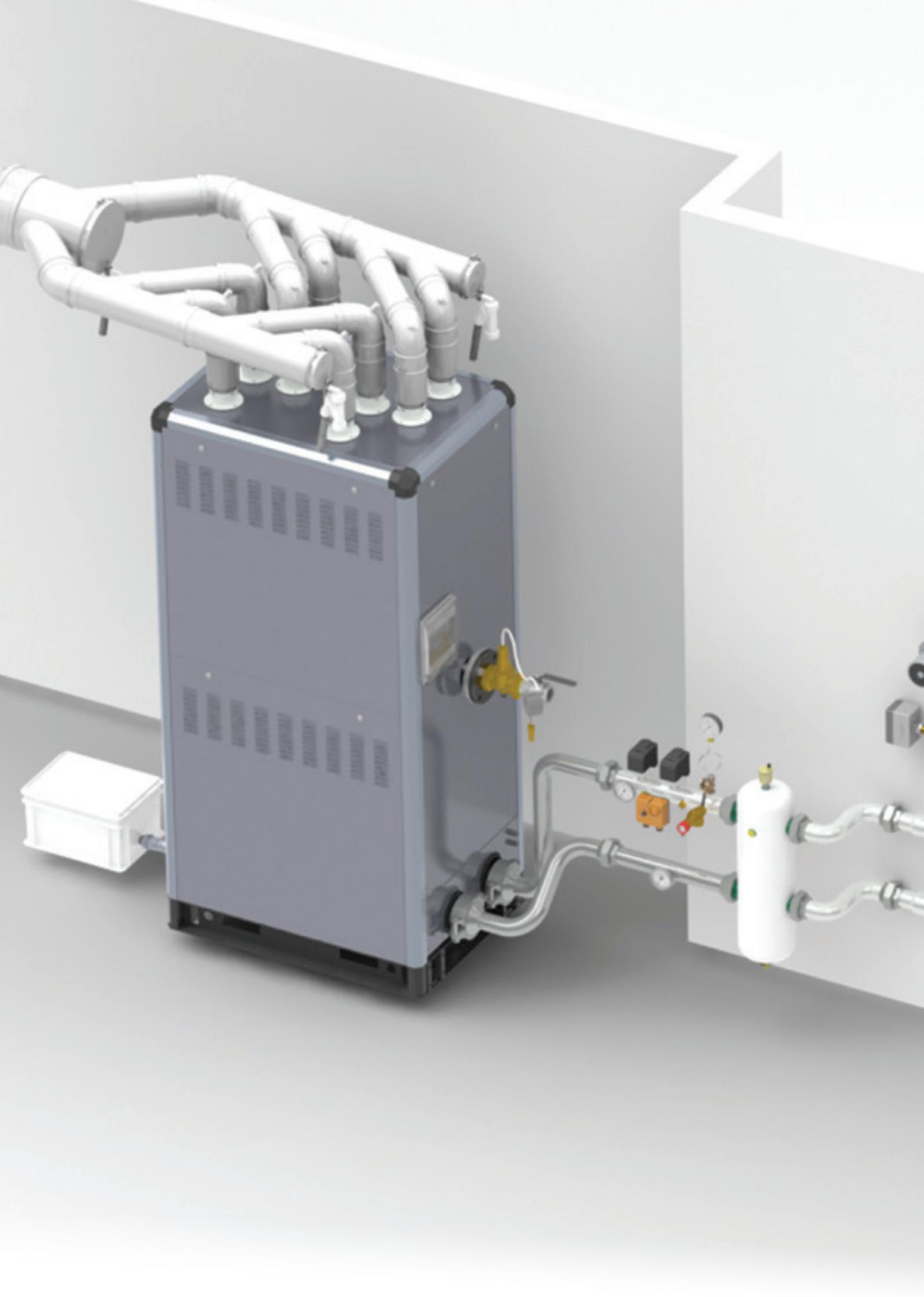
■ The compromise between user's needs and actual possibilities can sometimes make the realization of a heat generator expensive and complicated.

The **L.H.E.E.M.** heat generator removes such limitations, being ready to install, small sized, versatile because of the several applications it allows, and at the same time robust and reliable: features that meet the requirements of the system, of the installer and of the energy provider.

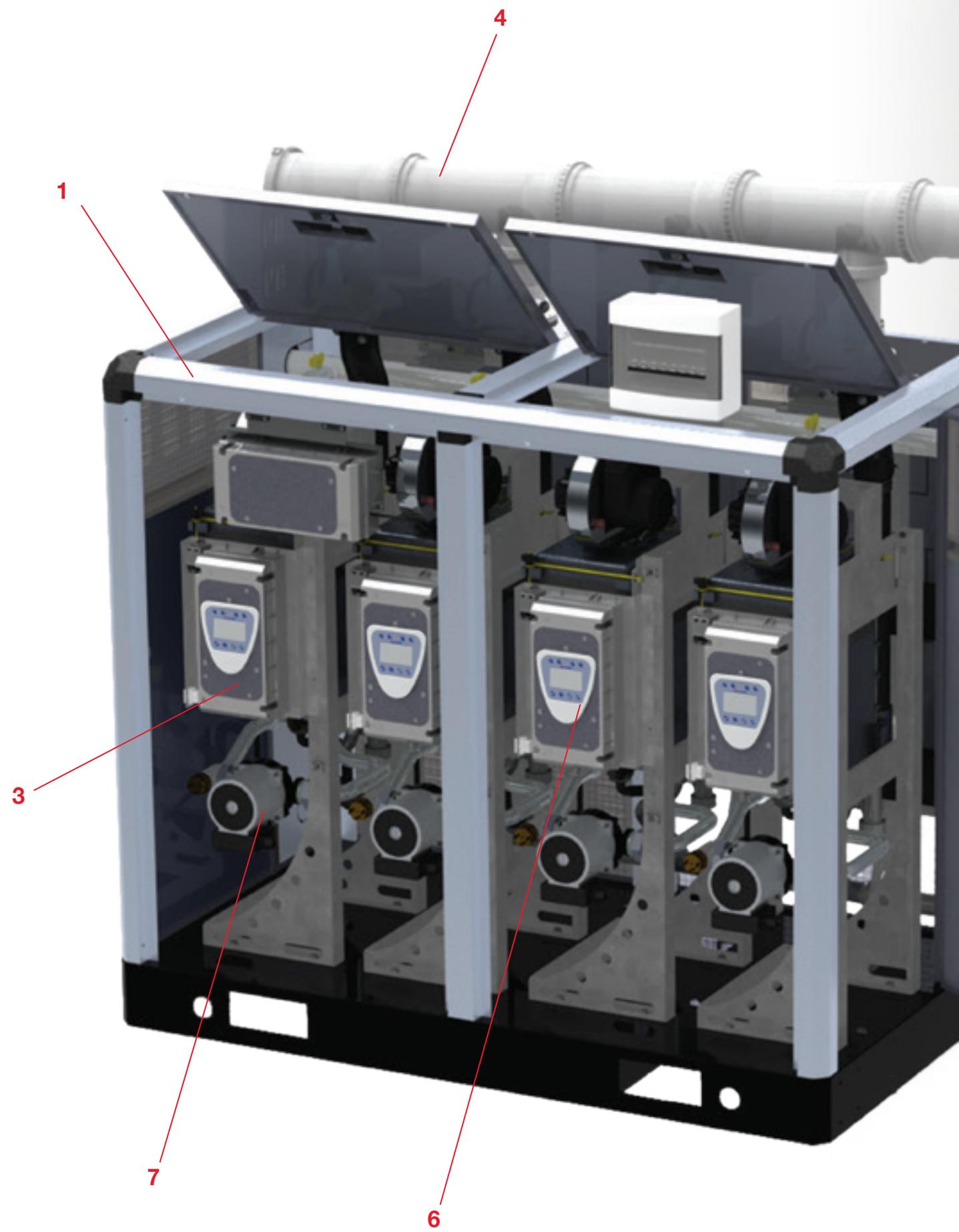
The wide output range and the great number of accessories, easily applicable to the generator, permit to configure applications that can fulfil any requirement of comfort in domestic heating (both single and multiple) and in industrial heating, paying specific attention to energy and operation saving.

All these features make the **L.H.E.E.M.** heat generator the most effective answer to nowadays requests of reliability, technology, saving, coming from the most demanding users and from those who design and engineer real solutions for the future.











■ 1

The “heart” of the **L.H.E.E.M.** heat generator is fully protected by a heat-resistant and sound-proof case, which is essential but elegant and small-sized. It is made of steel panels which fully protect all the parts, permitting at the same time to easily enter the generator: in this way, it does not have to be placed inside a central unit.

■ 2

Next to all the ventilation openings of the generator, air purifying filters are there which guarantee the highest protection to the sensitive internal parts, making them long-lasting and extending the working time between each maintenance intervention. The presence of filtration systems permits to install the **L.H.E.E.M.** heat generator in dusty places such as rooms shared with wood –burning heat generators.

■ 3

The positioning of the single condensing thermal groups inside the **L.H.E.E.M.** heat generator and their complete functional interdependence, joined to the possibilities of access allowed by the protection case, make this generator a real **CONTINUOUSLY OPERATING MODULAR SYSTEM**; any intervention of maintenance, repair and checking up can be carried out safely while the generator is working, since every module can be excluded from the hydraulic and power supply. By extracting a single module from its seat, it is possible to do full “off-site” maintenance interventions, while keeping the generator continuously working.

■ 4

Operation support systems make the installation of the **L.H.E.E.M.** heat generator easy and versatile. The flue exhaust system (modular and in polymer) can be adapted to any condition as, for instance, on existing flue pipes, provided they have correct sizes, or on new flue pipe lines, for which the available accessories allow several solutions. The presence of integrated shutters prevents the fumes to flow back, even when the generator is not working at full speed; moreover, both downline of the generator flue system and downline of every single module, there are traps for condense collection, joined to one manifold in order to allow a simple but effective condense discharge.

■ 5

The **L.H.E.E.M.** heat generator control is committed to an extremely versatile system which can be remote-controlled through an E-BUS connection. Thanks to the control system it is possible to supervise and program all the appliances connected to the generator, according to the most different needs, including also single-stage generators, solar thermal integration, etc. The single and simple interface permits to control with precision any request for thermal comfort and for D.H.W., in different times and at the same time, by detecting the different connected systems one by one and the relevant control devices. The wide range of options allows the most demanding users to choose the operational “philosophy” of the **L.H.E.E.M.** heat generator, thus removing the several application limits.

■ 6

A dedicated interface on each single module makes it possible, in any moment, to check and modify the module function parameters, allowing high versatility, simplicity and precision during the control and maintenance work on the heat generator. The simple consultation of each single and wide LCD display permits to correctly read and understand the state of every element/module, even in barely enlightened rooms.

7

Our search for innovative solutions, with great care for their environmentally friendly features, from the beginning has pushed us to use high efficiency appliances, anticipating European regulations on this subject, effective from 2015.

The use of “ERP” circulating pumps reduces the heat generator operating costs; furthermore the low environmental impact, due to a lower power consumption, contributes to the improvement of the quality of living for everyone, without affecting the required performance.

8

Drive-In system

System of lifting and transport by adjustable castor wheels.

SPECIFICATIONS

Arranged for:

- Control of Primary Rings pump
- Integrated algorithm room temperature regulation
- To be integrated with adaptor kits in accordance with national or international directives

Some features:

- Efficiency class: 4 stars (according to Directive 92/42/CEE)
- Each heating element is constituted by: monometal aluminum heat exchanger with reverse flame metal burner, modulating fan, gas valve, high efficiency circulator, ignition and flame control device, NTC sensor for temperature control, safety thermostat, water pressure switch, control program and safety system control.
- Premix system fan with anti-reflux valve integrated into each flue duct.
- Combustion air intake/supply system from the boiler room.

The system is equipped with:

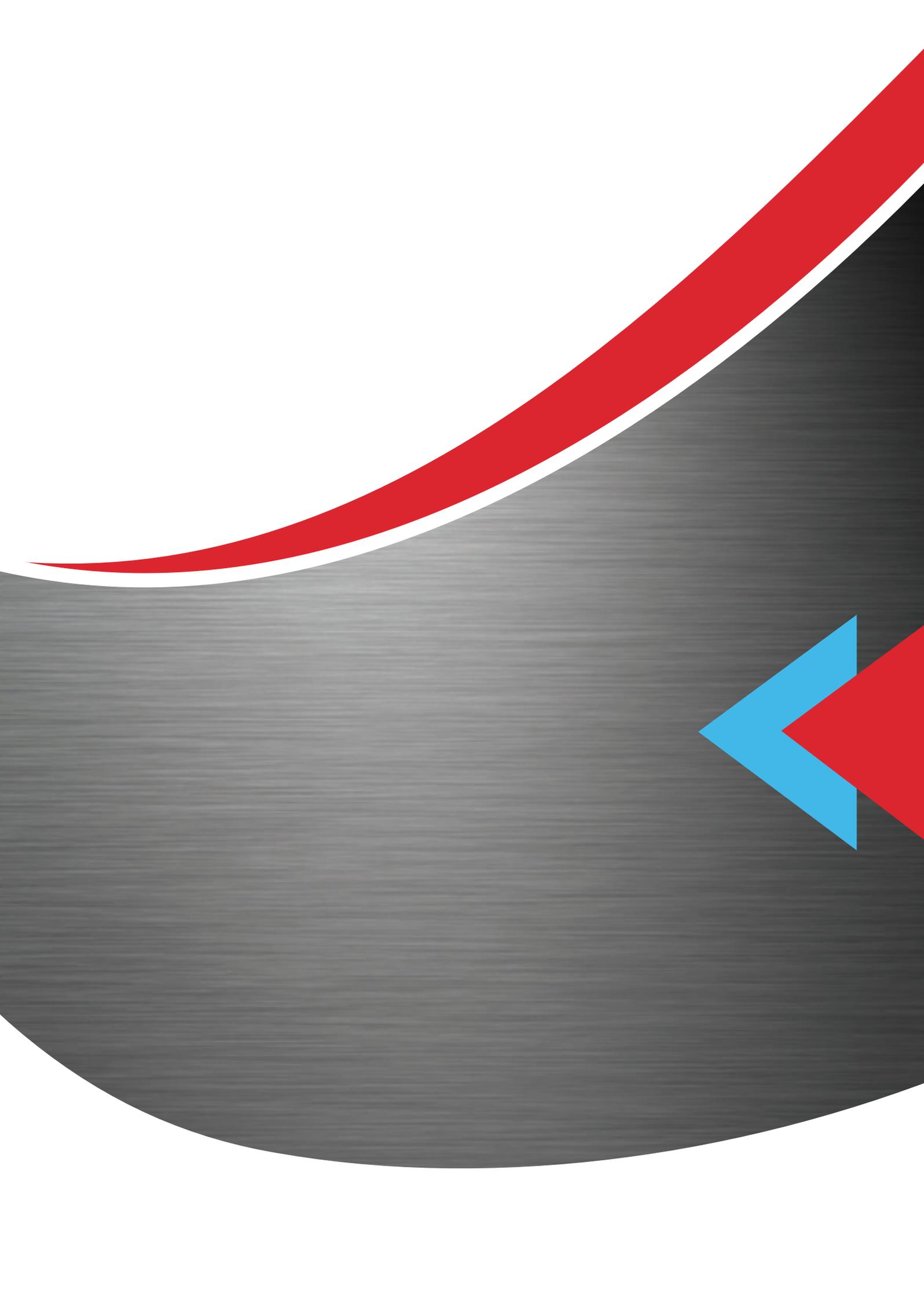
- Inlet-Outlet manifolds arranged with mounting flanges;
- Gas manifold with intercepting valves;
- Reversible hydraulic and gas connections;
- Integrated heating adjustment program;
- Control up to 3 mixed circuits and control of DHW storage;
- Supplied with: external probe, inlet probe and DHW probe, zone control probe.

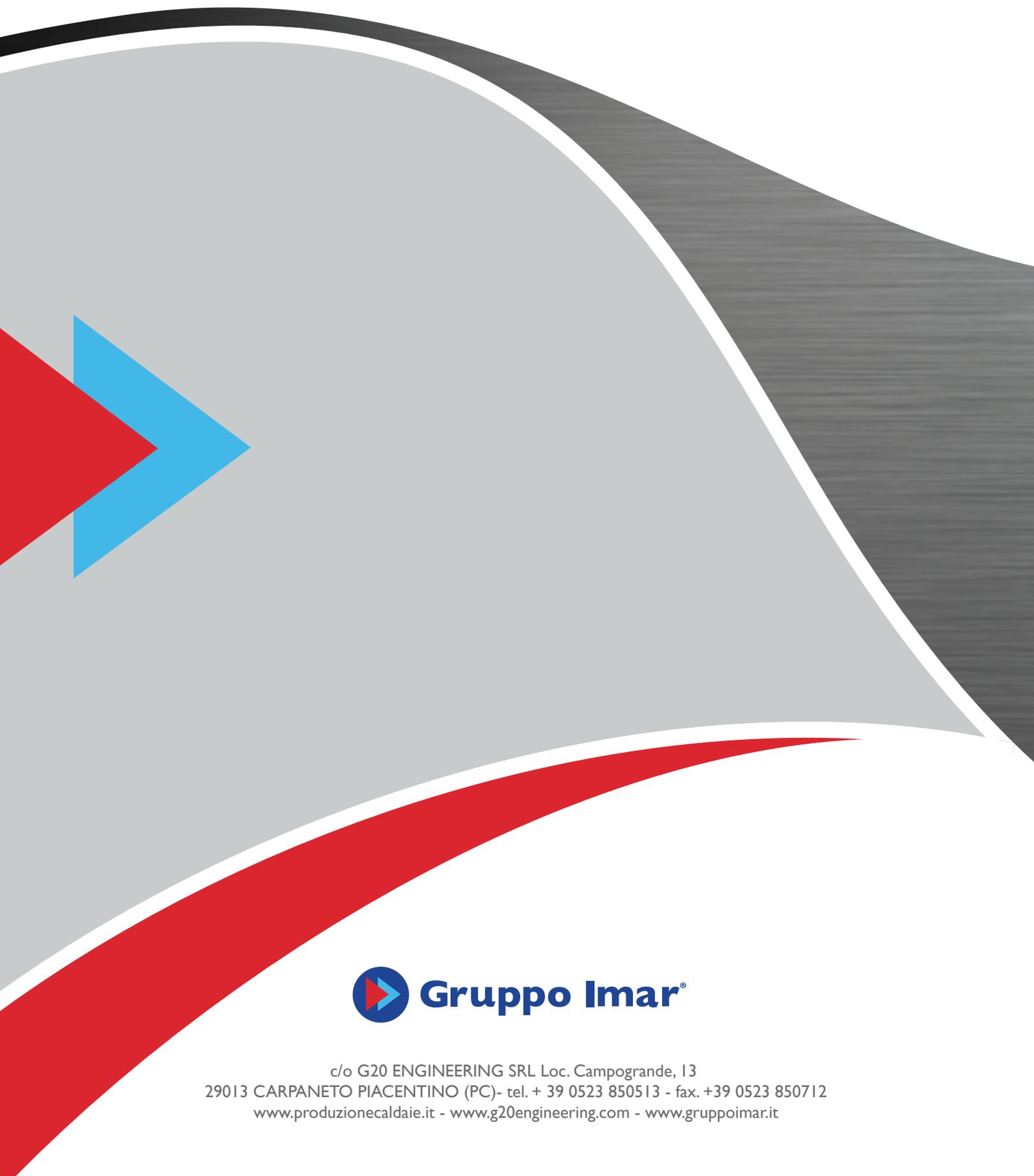
Operating logic:

- System conceived to obtain the highest efficiency;
 - “In turn” working system in order to permit the same working hours for each heating element;
 - Production of DHW by means of : priority DHW probe; DHW storage pump or DHW three-way diverting valve;
 - Possibility of power control of each heating element;
 - Automatic control of power output, temperature setpoint;
 - Monitoring of working status and temperature;
 - Alarm control;
 - Parameters setting.
- 

■ TECHNICAL DATA FOR A SINGLE THERMAL MODULE:

	LHEMM 114kW		LHEMM 130-520kW		LHEMM MK 520kW	
CATEGORY	I12H3P		I12H3P		I12H3P	
Gas type	G20	G31	G20	G31	G20	G31
PIN	CE-1299CR0108		CE-1299CR0108		CE-1299CR0108	
Maximum gas consumption	5,84 [m3/h]	4,5 [kg/h]	6,34 [m3/h]	4,9 [kg/h]	6,34 [m3/h]	4,9 [kg/h]
Rated heat input for heat generator (80–60°C)	114 [kW]		126 - 496 [kW]		126 - 496 [kW]	
Minimum heat input for heat generator (80–60°C)	15 [kW]		15 [kW]		15 [kW]	
Rated heat input (80 - 60 °C)	57 [kW]		62 [kW]		62 [kW]	
Maximum heat output Pn 100% (80–60°C)	56 [kW]		60,9 [kW]		60,9 [kW]	
Minimum heat output (80-60°C)	14,85 [kW]		14,85 [kW]		14,85 [kW]	
Combustion efficiency Pn 100%	98,7 [%]		98,7 [%]		98,7 [%]	
Useful efficiency Pn 100% (80–60°C)	98,2 [%]		98,2 [%]		98,2 [%]	
Useful efficiency Pn min. (80 - 60 °C)	98,5 [%]		98,5 [%]		98,5 [%]	
Heat output (50 - 30 °C)	60,2 [kW]		65,5 [kW]		65,5 [kW]	
Minimum heat output (50 - 30 °C) kW	15,9 [kW]		15,9 [kW]		15,9 [kW]	
Useful efficiency Pn 100% (50 - 30 °C)	105,6 [%]		105,6 [%]		105,6 [%]	
Useful efficiency Pn 30% (50 - 30 °C)	108,5 [%]		108,5 [%]		108,5 [%]	
NOx Class	5 ≤ 30 [mgm ³]		5 ≤ 30 [mgm ³]		5 ≤ 30 [mgm ³]	
N° of generator modules	2		2-8		2-8	
CO2 level - Rated output (G20 - G31)	9,6 [%] - 10,6 [%]		9,6 [%] - 10,6 [%]		9,6 [%] - 10,6 [%]	
CO2 level - Minimum output (G20 - G31)	9,1[%] - 10[%]		9,1[%] - 10[%]		9,1[%] - 10[%]	
CO2 level Pn 100%	65 [p.p.m.]		87 [p.p.m.]		87 [p.p.m.]	
Net flue temperature - Rated output (80 - 60 °C)	58 [°C]		62 [°C]		62 [°C]	
Max available pressure at the chimney base	120 [Pa]		120 [Pa]		120 [Pa]	
Max available hydraulic head in module circuit	120 [Pa]		120 [Pa]		120 [Pa]	
IP rating	40		40		40	
Power consumption	250 [Watt]		270 [Watt]		270 [Watt]	





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