

COMMERCIAL BOILERS



Murelle HE R i
Murelle HE R e

Murelle HE R

High-power wall-hung boiler



Murelle HE R is a new range of pre-mix, high-power condensing boilers. It is available in 2 versions from 46.8 to 104.0 kW, only for heating. It is designed to be installed individually in a technical room, resolving problems of space and handling. The extraordinary flexibility of the equipment allows for the management of three heating circuits at different temperatures and, through optional kits, of a forced circulation solar system

and two low temperature areas. Murelle HE R is also suitable for extensive use: with the new on-board electronics, it is possible to manage up to 8 generators in cascade (for "i" models"). "i" models are designed for the internal installation, while "e" models are specifically for outdoor installation, protected against atmospheric agents.



Murelle HE R i



Murelle HE R e



Murelle HE R i
in cascade

The range

Installation	MURELLE HE R		MURELLE HE R IN CASCADE	
	50 kW	110 kW	50 kW	110 kW
Internal	✓	✓	✓	✓
Outdoor	✓	✓		

Product advantages

- › Wide range of modulation: 1:5 for 50 and 110 kW versions
- › 2 versions heating only from 46.8 to 104.0 kW with modulating pump
- › Stainless steel coil heat exchanger
- › Management of a series of up to 8 boilers in cascade
- › Possibility of ModBus communication
- › 110 R version can be installed in systems with pressures up to 5 bar

Technical and safety features

	Murelle HE R i/e	Murelle HE R i in cascade
Electronic board with microprocessor	●	●
Continuous electronic modulation of flame	●	●
Automatic ignition and ionisation of flame	●	●
Chimney sweep function that facilitates the analysis of combustion	●	●
Antifreeze system created with heating probe	●	●
Collectors of water flow and return and gas supply system	X	●
Unidirectional valves	X	●
Exhaust condensate including drain pipe	●	X
Collector of exhaust condensate including drain pipe	X	●
Water/flue exchanger made of stainless steel	●	●
Flue collector made of polypropylene for indoor installation	X	●
Premix burner with low NOx	●	●
Pump on the primary circuit with air separator	●	●
Post circulation of the pump	●	●
Post ventilation of fan	●	●
Gas valve with modulator and double valve that interrupts gas release in the absence of flame	●	●
External temperature sensor	●	●
Self-diagnostics via LCD display	●	●
Safety in case of lack of water	●	●
Safety thermostat	●	●
Flue thermostat for the protection of the exhaust pipe in polypropylene	●	●
Safety valve 3.5 BAR (5 BAR for versions with 100 kW motor) per unit of heat	●	●
ISPESL safety kit	○	○
Hydraulic compensator kit	○	○
Basic electrical panel ^[1]	X	○
Complete electrical panel ^[2]	X	○

[1] IP65 outdoor resin electrical panel. Management of up to three boilers in cascade, a direct area and a boiler. Magneto-thermal protection, two relays for pump decoupling system and boiler pump, jack plug for auxiliary power.

[2] IP65 outdoor resin electrical panel. Management of up to five boilers in cascade, a direct area, two expansion boards for MIX or solar areas (one already installed) and a boiler, jack plug for auxiliary power. Magneto-thermal protection, two relays for pump decoupling system and boiler pump.

● Series ○ Optional X Not planned

Sime condensation

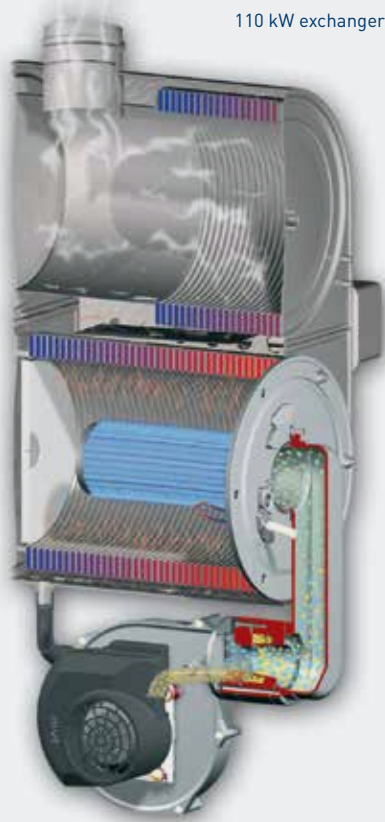
All Murelle HE R modular systems are equipped with 50 or 110 kW condenser coil exchangers, characterised by high yield. The combustion of natural gas generates water vapour which in traditional boilers is conveyed to the outside through the release of flue from the chimney. The technology used in Murelle HE R modular systems allows for the recovery of this heat. The main exchanger is made of stainless steel suitable for resisting the corrosive action of the condensate. Its particular cylindrical shape (single for the 50 kW models and overlapping double for 110 kW models) as well as the efficient collection system of the liquid condensate, ensure the best possible heat exchange. The radial pre-mix burner is made of steel. Characterised by a cylindrical shape and positioned

at the centre of the combustion chamber, it produces a particular "microflame" at low temperature which reduces the production of pollutants (CO and NOx) significantly.

The air and the gas necessary for combustion enter the burner and are mixed in an ideal balanced ratio.

The recovery of heat contained in the combustion flue takes place through a particular process: the water vapour content of the flue condenses when in contact with the surfaces of the heat exchanger made colder by the water return from the heating circuit.

During the condensation, the transfer of energy takes place that would otherwise be lost with the release of flue.



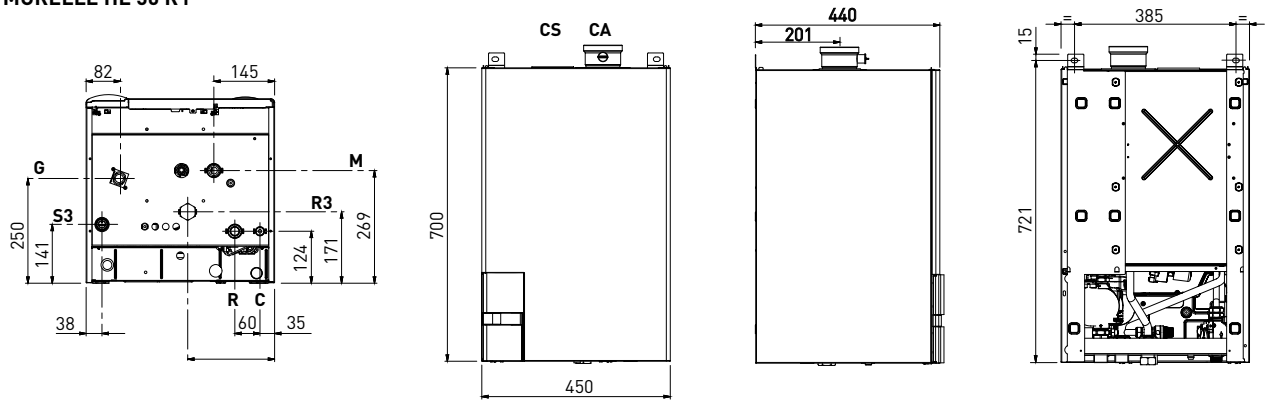
MURELLE HE R

		MURELLE HE R	
MODEL		50 i - 50 e	110 i - 110 e
Product Codes		Internal 8104976 External 8104977	Internal 8104996 External 8104998
Nominal heat output (80-60°C)	kW	46.8	104.0
Reduced heat output (80-60°C)	kW	9.3	21.1
Nominal heat output (50-30°C)	kW	51.2	112.8
Reduced heat output (50-30°C)	kW	10.5	23.6
Nominal heat input	kW	53.3	118.1
Reduced heat input	kW	10.6	21.6
Maximum useful yield (80-60°C)	%	87.7	97.8
Maximum useful yield (50-30°C)	%	96.0	106.1
Losses after shutdown	W	76	126
Absorbed power consumption	W	180	309
Electric protection degree	IP	X4D	X4D
Water content	l	2.30	8.20
Max/min inlet water pressure	Pa	400/50	500/50
Maximum temperature	°C	85	85
Max pressure of flue collector release	Pa	147	147
Max/min flue gas temperature 80-60°C	°C	85.0/70.0	86.2/74.6
Max/min flue gas temperature 50-30°C	°C	52.0/45.0	61.6/49.2
NOx emission class		5	5
Weight (i/e)	kg	45/52	100/113

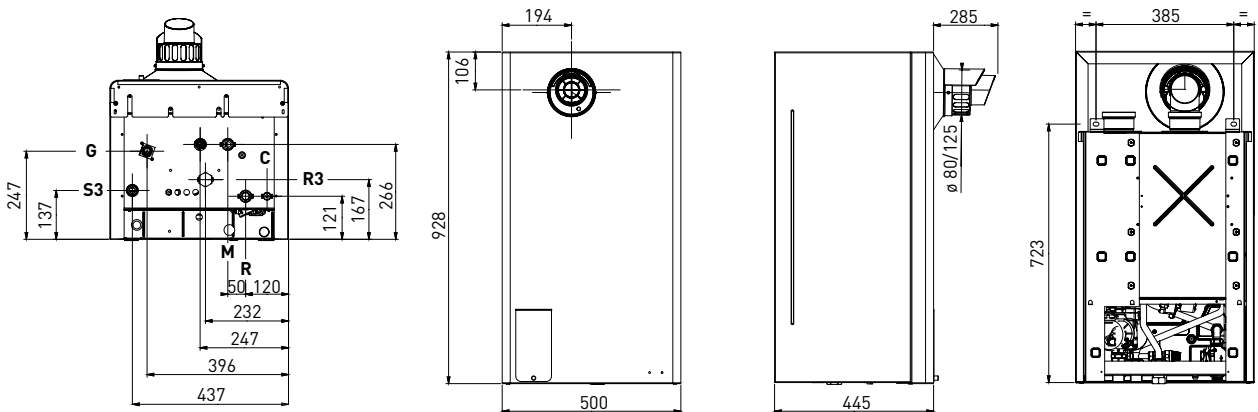




MURELLE HE 50 R i



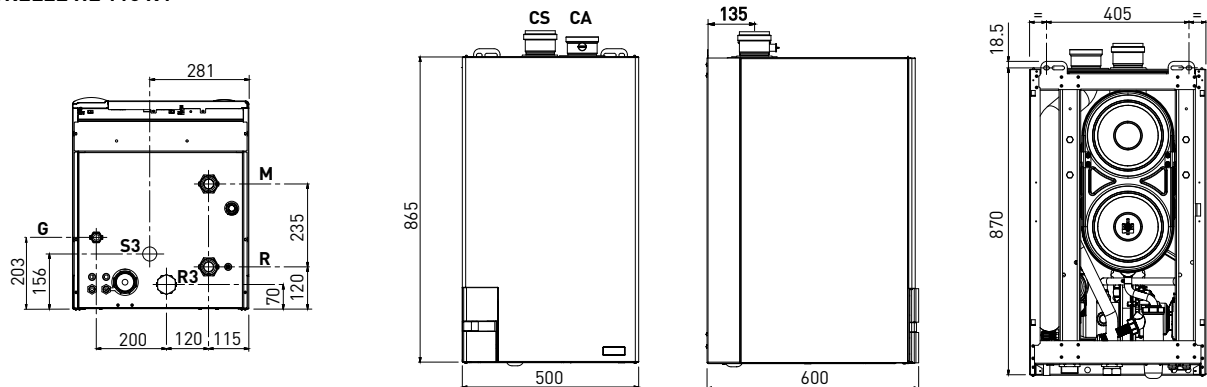
MURELLE HE 50 R e



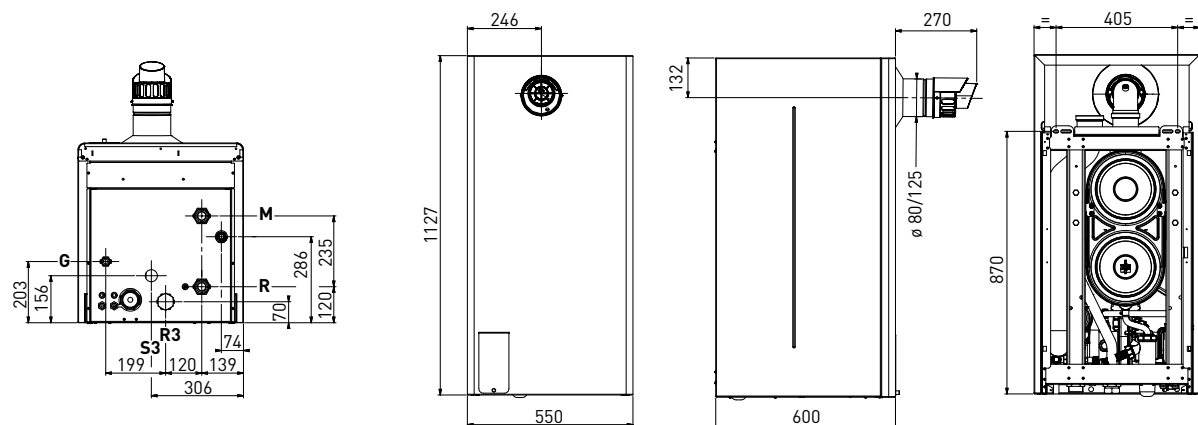
HYDRAULIC CONNECTIONS	50 i	50 e
R C.H. return	1"	1"
M C.H. flow	1"	1"
G Gas connection	3/4"	3/4"
R3 Boiler return	1"	1"
C Filling system	1/2"	1/2"
S3 Condensation outlet	Ø 25 mm	Ø 25 mm
CA Air inlet	Ø 80 mm	-
CS Exhaust	Ø 80 mm	-



MURELLE HE 110 R i



MURELLE HE 110 R e



HYDRAULIC CONNECTIONS	110 i	110 e
R C.H. return	1" 1/2	1" 1/2
M C.H. flow	1" 1/2	1" 1/2
G Gas connection	3/4"	3/4"
R3 Boiler return	1" 1/2	1" 1/2
S3 Condensation outlet	ø 25 mm	ø 25 mm
CA Air inlet	ø 80 mm	-
CS Exhaust	ø 80 mm	-

Murelle HE R IN CASCADE

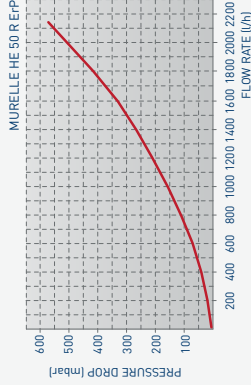
Types of complete plants

SYSTEM TYPE WITH PARALLEL PRIORITY FUNCTION IN HEATING AND DHW

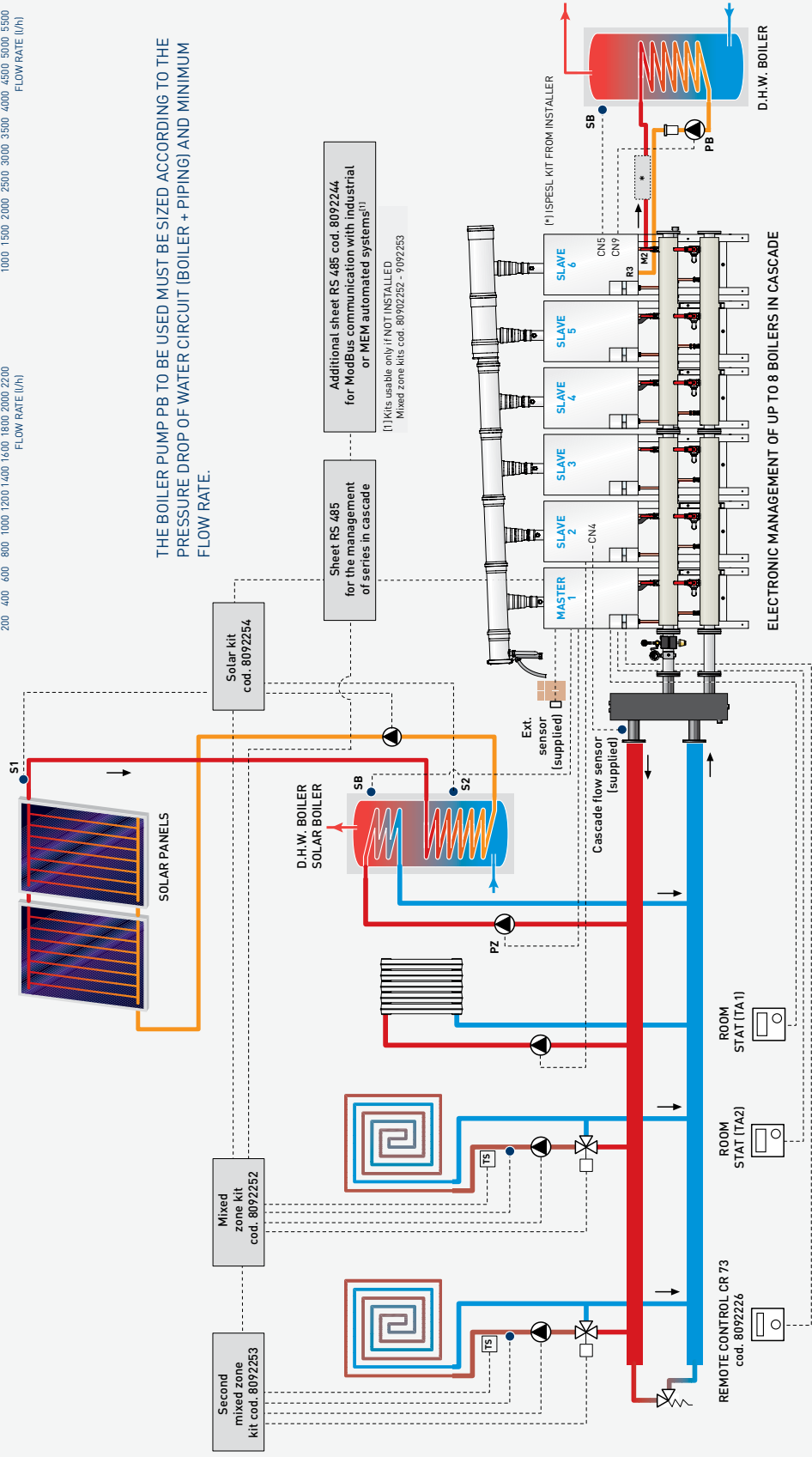
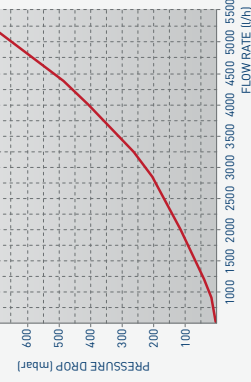
IF THE MANAGEMENT OF BOILER PREPARATION IS DESIRED AFTER THE HYDRAULIC COMPENSATOR WITH PARALLEL PRIORITY IN TERMS OF HEATING SERVICE, IT CAN BE DONE BY TREATING THE BOILER LIKE A HIGH TEMPERATURE AREA, SETTING MINIMUM AND MAXIMUM TEMPERATURE LIMITS THROUGH THE INSTALLER PARAMETERS OF THE CHOSEN CIRCUIT, IN ORDER TO INHIBIT THE INFLUENCE OF CLIMATIC ADJUSTMENTS.

NOTE: WHEN USING THIS PROCEDURE, A HEATING CIRCUIT IS NO LONGER AVAILABLE AS IT IS USED BY THE BOILER.

PRESSURE/FLOW LOSS CURVE BETWEEN THE R3 AND M2 ATTACHMENTS



PRESSURE/FLOW LOSS CURVE BETWEEN THE R3 AND M2 ATTACHMENTS



THE BOILER PUMP PB TO BE USED MUST BE SIZED ACCORDING TO THE PRESSURE DROP OF WATER CIRCUIT (BOILER + PIPING) AND MINIMUM FLOW RATE.

Additional sheet RS 485 cod. 8092244 for ModBus communication with industrial or MIEW automated systems⁽¹⁾
 (1) Kits usable only if NOT INSTALLED.
 Mixed zone kits cod. 8092252 - 9092253

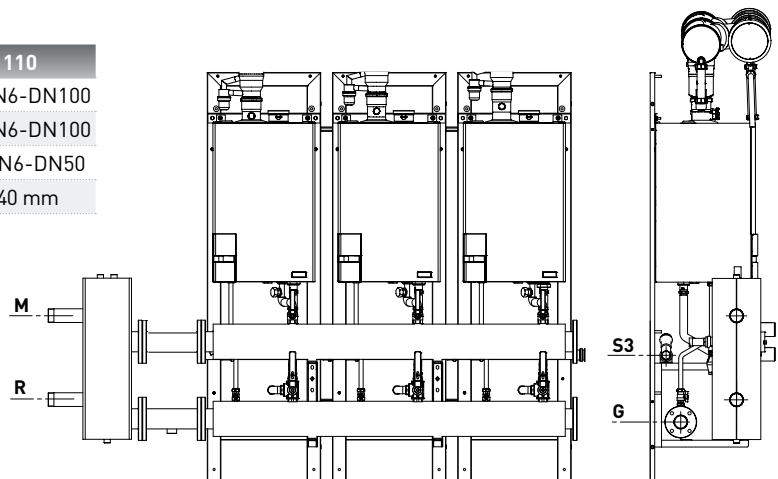
ELECTRONIC MANAGEMENT OF UP TO 8 BOILERS IN CASCADE

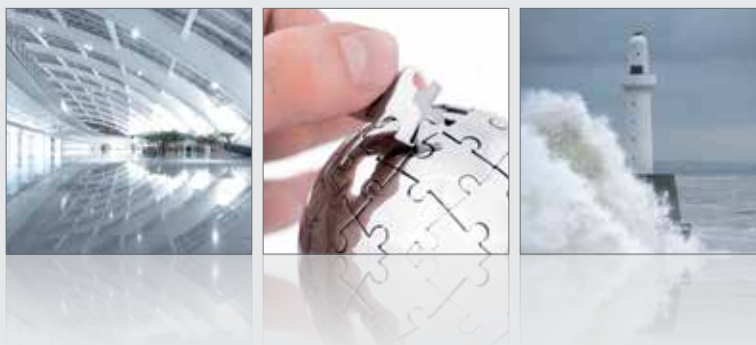
MURELLE HE R IN CASCADE

		MURELLE HE 50 R i						
Number of generators		2	3	4	5	6	7	8
Nominal heat output (80-60°C)	kW	93.6	140.4	187.2	234.0	280.8	327.6	374.4
Reduced heat output (80-60°C)	kW	9.3	9.3	9.3	9.3	9.3	9.3	9.3
Nominal heat output (50-30°C)	kW	102.4	153.6	204.8	256.0	307.2	358.4	409.6
Reduced heat output (50-30°C)	kW	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Nominal heat input	kW	106.6	159.9	213.2	266.5	319.8	373.1	426.4
Reduced heat input	kW	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Maximum useful yield (80-60°C)	%	87.7	87.7	87.7	87.7	87.7	87.7	87.7
Maximum useful yield (50-30°C)	%	96.0	96.0	96.0	96.0	96.0	96.0	96.0
Absorbed power consumption	W	360	540	720	900	1,080	1,260	1,440
Water content	l	4.6	6.9	9.2	11.5	13.8	16.1	18.4
Max pressure of flue collector release	Pa	147	147	147	147	147	147	147
Max/min flue gas temperature 80-60°C	°C	85.0/70.0	85.0/70.0	85.0/70.0	85.0/70.0	85.0/70.0	85.0/70.0	85.0/70.0
Max/min flue gas temperature 50-30°C	°C	52.0/45.0	52.0/45.0	52.0/45.0	52.0/45.0	52.0/45.0	52.0/45.0	52.0/45.0
NOx emission class		5	5	5	5	5	5	5

		MURELLE HE 110 R i						
Number of generators		2	3	4	5	6	7	8
Nominal heat output (80-60°C)	kW	208.0	312.0	416.0	520.0	624.0	728.0	832.0
Reduced heat output (80-60°C)	kW	21.1	21.1	21.1	21.1	21.1	21.1	21.1
Nominal heat output (50-30°C)	kW	225.6	338.4	451.2	564.0	676.8	789.6	902.4
Reduced heat output (50-30°C)	kW	23.6	23.6	23.6	23.6	23.6	23.6	23.6
Nominal heat input	kW	236.2	354.3	472.4	590.5	708.6	826.7	944.8
Reduced heat input	kW	10.6	10.6	10.6	10.6	10.6	10.6	10.6
Maximum useful yield (80-60°C)	%	97.8	97.8	97.8	97.8	97.8	97.8	97.8
Maximum useful yield (50-30°C)	%	106.1	106.1	106.1	106.1	106.1	106.1	106.1
Absorbed power consumption	W	618	927	1,236	1,545	1,854	2,163	2,472
Water content	l	16.4	24.6	32.8	41.0	49.2	57.4	65.6
Max pressure of flue collector release	Pa	147	147	147	147	147	147	147
Max/min flue gas temperature 80-60°C	°C	86.2/74.6	86.2/74.6	86.2/74.6	86.2/74.6	86.2/74.6	86.2/74.6	86.2/74.6
Max/min flue gas temperature 50-30°C	°C	61.6/49.2	61.6/49.2	61.6/49.2	61.6/49.2	61.6/49.2	61.6/49.2	61.6/49.2
NOx emission class		5	5	5	5	5	5	5

HYDRAULIC CONNECTIONS		50	110
R	C.H. return	2"	FL. PN6-DN100
M	C.H. flow	2"	FL. PN6-DN100
G	Gas connection	FL. PN6-DN50	FL. PN6-DN50
S3	Condensation outlet	ø 40 mm	ø 40 mm





Fonderie Sime. S.p.A has obtained voluntary certifications ISO 14001 and OHSAS 18001, constituting international recognition of the commitment and responsibility assumed by Sime on matters of the environment and worker safety. Through the successful achievement of this objective, Sime has materialised its corporate mission, while undertaking to continuously improve its current activities and future processes.

