

Luna Duo-tec MP/MP+ 50-150 kW



(1) Products with nominal output >70 kW are not subjected to energy labelling according to ErP regulation

Hydraulic system

Modulating pump included in the boiler
(Luna Duo-tec MP models)

High efficiency full modulating pump with enhanced head pump (Luna Duo-tec MP+ models)

System to prevent pump sticking operating every 24 hours

Flow and return NTC sensors

Water tray for condensate drain from supply air duct

Thermoregulation system

Built-in climatic regulation (outdoor sensor supplied as optional)

Mixed zones systems (high and low temperatures) installation option

Cascade system installation option (up to 16 boilers)

NTC sensor for DHW cylinder control option

Heating and DHW timers integrated in the control panel

Control system

Full electronic anti-frost device

Electronic thermometer

Central heating pressure gauge

Flow over-temperature thermostat

- Wide modulation ratio up to 1:9 (1:5 mod. 1.130 and 1.150) better efficiency and noiseless operation
- The new models 1.130 and 1.150 have the same dimensions and connections of 90-110 kW models
- Digital control panel with back-lighted wide LCD display
- **High efficiency and wide modulation circulating pump included inside the boiler**
- Heat exchanger, with combustion chamber and hydraulic circuit, composed by stainless steel coils
- Metal frame that allows single and cascade installation of the boilers in the center of thermic rooms
- Enhanced electronics allows to manage cascade installations up to **16 boilers**
- Simplified maintenance operations: frontal access to the internal components
- Maximum operating pressure: 4 bar (6 bar mod. 1.130 and 1.150)

Outputs from 50 to 150 kW

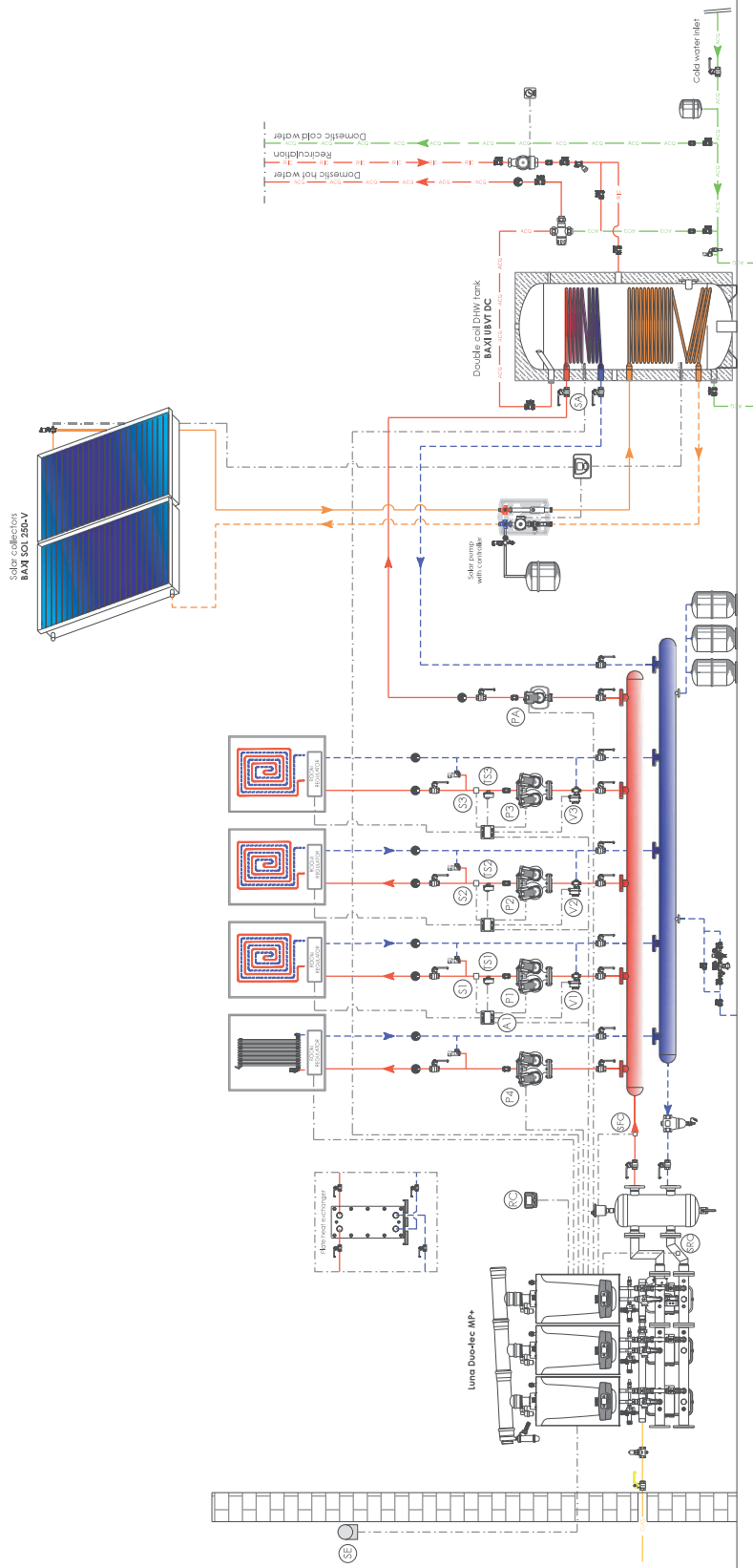
Luna Duo-tec MP+		Heating only						
		1.50	1.60	1.70	1.90	1.110	1.130	1.150
Maximum heat input (heating)	kW	46,3	56,5	65,9	87,4	104,9	123,8	143
Minimum heat output	kW	5,1	6,3	7,4	9,7	11,7	24,8	28,6
Rated heat output (80/60°C) <i>Prated</i>	kW	45	55	65	85	102	121,5	140,3
Minimum heat output (80/60°C)	kW	5	6,1	7,2	9,4	11,4	24,3	28,1
Maximum heat output (50/30°C)	kW	48,6	59,4	70,2	91,8	110,2	130,6	150,9
Minimum heat output (50/30°C)	kW	5,4	6,6	7,8	10,2	12,3	26,2	30,2
Useful heat output at 30% of rated heat output and low temperature regime** <i>P_u</i>	kW	14,9	18,2	21,5	28,2	33,8	40,4	46,6
Seasonal space heating energy efficiency class		A	A	A				
Efficiency <i>P_h</i> (lower calorific value) - Average temperature 70°C	%	97,4	97,2	97,2	97,3	97,2	98,1	98,1
Efficiency at 30% (lower calorific value) - Return temperature 30°C	%	107,8	107,4	107,1	107,5	107,4	108,6	108,6
Useful efficiency at rated heat output and high temperature regime* <i>η_d</i>	%	87,7	87,6	87,6	87,7	87,6	88,4	88,4
Useful efficiency at 30% of rated heat output and low temperature regime** <i>η_l</i>	%	97,1	96,8	96,5	96,8	96,8	97,8	97,8
Seasonal space heating energy efficiency <i>η_s</i>	%	92	92	92	93	93	93	93
NOx emissions	mg/kWh	29	31	31	31	22	17	23
Maximum pressure heating circuit	bar	4	4	4	4	4	6	6
Maximum inlet temperature heating circuit	°C	90	90	90	90	90	90	90
Heating temperature range	°C	25-80	25-80	25-80	25-80	25-80	25-80	25-80
Water content	l	4	5	6	9	10	10	11
Dual flue system	mm	80	80	80	110	110	110	110
Maximum flue mass flow rate	kg/s	0,021	0,026	0,031	0,04	0,047	0,056	0,064
Minimum flue mass flow rate	kg/s	0,002	0,003	0,004	0,005	0,005	0,012	0,014
Maximum flue temperature	°C	80	80	74	70	70	70	70
Dimensions (hxxwxd)	mm	766x50x377	756x50x505	552x60x544				
Net weight	kg	40	40	50	83	93	93	96
Gas type		Natural Gas/LPG						
Power consumption	W	230	230	230	275	320	360	460
Auxiliary electrical power consumption - Full load <i>elmax</i>	kW	0,080	0,095	0,095	0,130	0,165	0,187	0,288
Auxiliary electrical power - Partial load <i>elmin</i>	kW	0,020	0,020	0,020	0,017	0,018	0,051	0,052

*High temperature regime: 60°C return temperature at heater inlet and 80°C flow temperature at heater outlet
**Low temperature: 30°C return temperature (at heater inlet)

Cascade installation scheme

HYDRAULIC SCHEME - CONNECTIONS

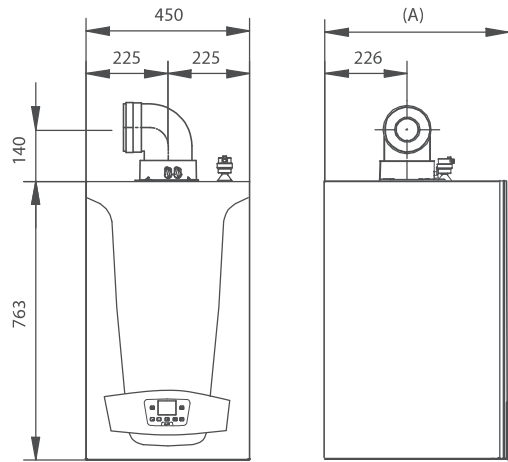
Cascade of Luna Duo-tec MP+ boilers for heating (1 direct zone + 3 mixed zones), solar system for DHW production with double coil tank and boiler integration.



High output condensing systems

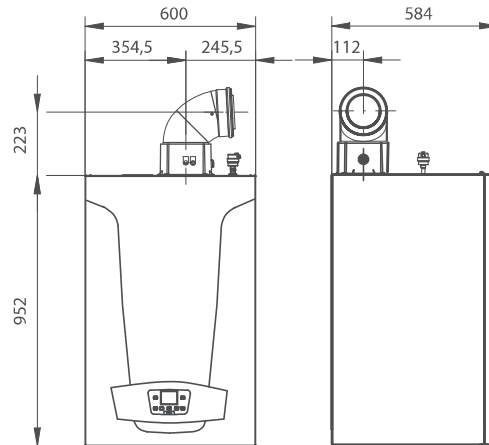
Dimensions Luna Duo-tec MP/MP+

Luna Duo-tec MP/MP+ 1.50-1.60-1.70
Coaxial flue system \varnothing 80/125

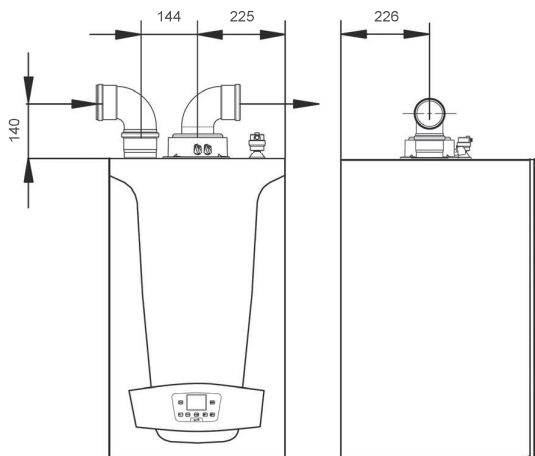


(A) 377 mm Mod. 1.50-1.60
505 mm Mod. 1.70

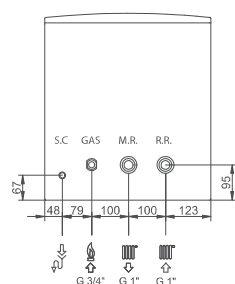
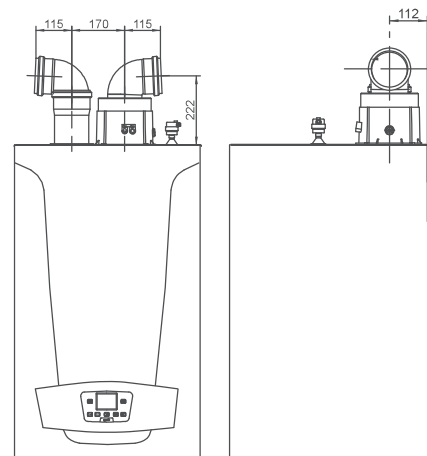
Luna Duo-tec MP/MP+ 1.90-1.150
Coaxial flue system \varnothing 110/160



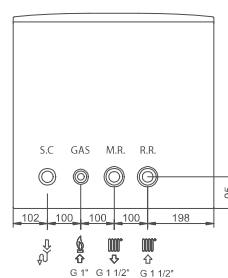
Luna Duo-tec MP/MP+ 1.50-1.60-1.70
Dual flue system \varnothing 80



Luna Duo-tec MP/MP+ 1.90-1.150
Dual flue system \varnothing 110



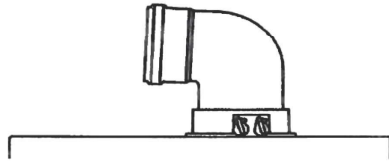
GAS Gas inlet G 3/4"
M.R. Heating system flow (G1")
with cylinder connection option
R.R. Heating system return (G1")
with cylinder connection option
S.C. Condensate drain



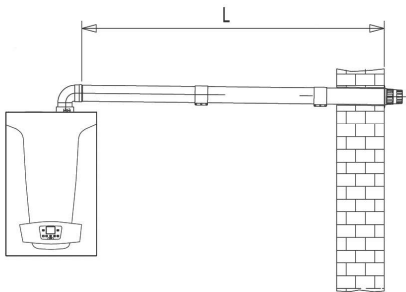
GAS Gas inlet G 1"
M.R. Heating system flow
(G1-G1/2") with cylinder
connection option
R.R. Heating system return
(G1-1/2") with cylinder
connection option
S.C. Condensate drain

Flue systems Luna Duo-tec MP/MP+

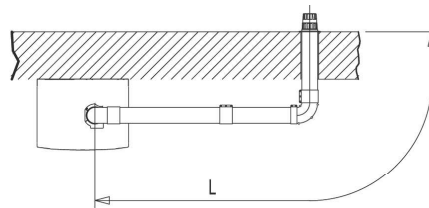
Coaxial flue



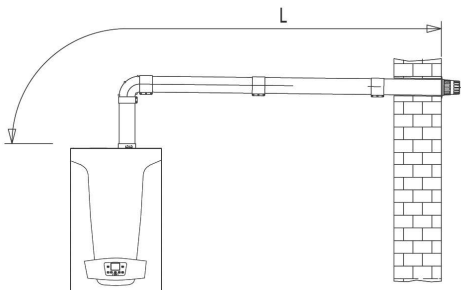
Luna Duo-tec MP/MP+ 1.50 - 1.60 - 1.70 = Ø 80/125 mm
Luna Duo-tec MP/MP+ 1.90 - 1.150 = Ø 110/160 mm



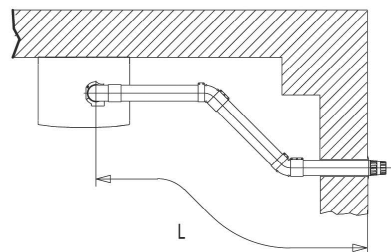
L_{max} = 10 m mod. 1.50 - 1.60 - 1.70 - 1.90 - 1.110
L_{max} = 8 m mod. 1.130 - 1.150



L_{max} = 9 m mod. 1.50 - 1.60 - 1.70 - 1.90 - 1.110
L_{max} = 7 m mod. 1.130 - 1.150



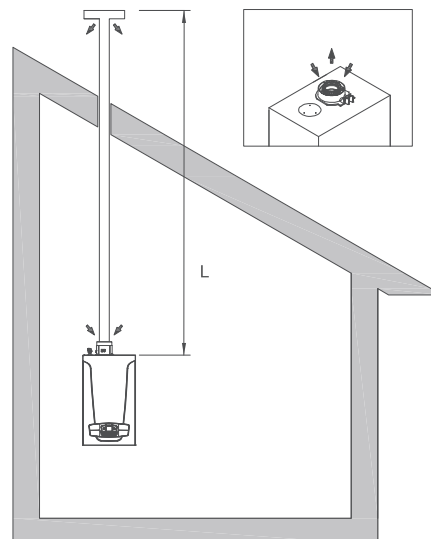
L_{max} = 10 m mod. 1.50 - 1.60 - 1.70 - 1.90 - 1.110
L_{max} = 8 m mod. 1.130 - 1.150



L_{max} = 9 m mod. 1.50 - 1.60 - 1.70 - 1.90 - 1.110
L_{max} = 7 m mod. 1.130 - 1.150

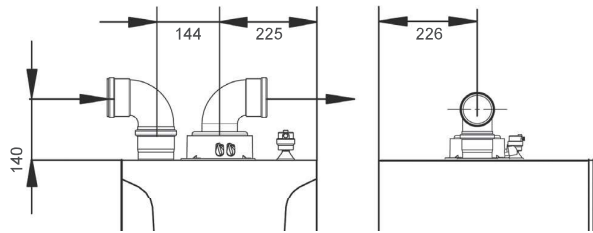
B₂₃
The below table shows the maximum length of the flue pipe connected to a chimney using flue systems provided by BAXI with air taken from the boiler room and outdoor flue discharge.

Flue type	B ₂₃	
	VERTICAL	
	Flue pipe Ø [mm]	Maximum length L [m]
Luna Duo-tec MP+ 1.50	80	60
Luna Duo-tec MP+ 1.60	80	40
Luna Duo-tec MP+ 1.70	80	30
Luna Duo-tec MP+ 1.90	110	27
Luna Duo-tec MP+ 1.110	110	27
Luna Duo-tec MP+ 1.130	110	20
Luna Duo-tec MP+ 1.150	110	20

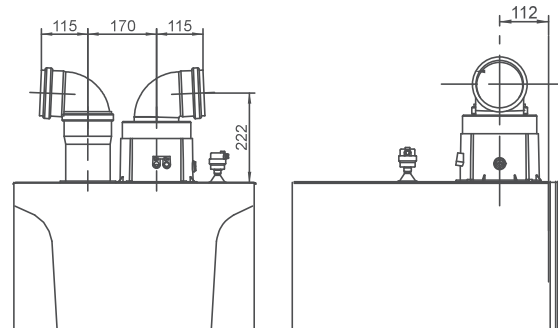


High output condensing systems

Dual flue



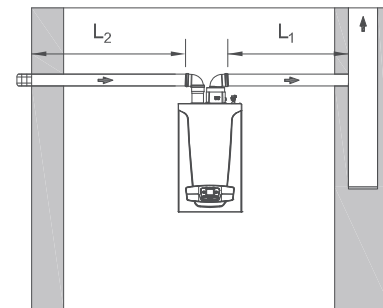
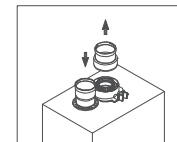
Luna Duo-tec MP+ 1.50 - 1.60 - 1.70 = Ø 80+80 mm



Luna Duo-tec MP+ 1.90 - 1.110 - 1.130 - 1.150 = Ø 110+110 mm

C₅₃
The below table shows the maximum length of the flue pipe connected to a chimney using flue systems provided by BAXI with dual flue outdoor air inlet and flue discharge.

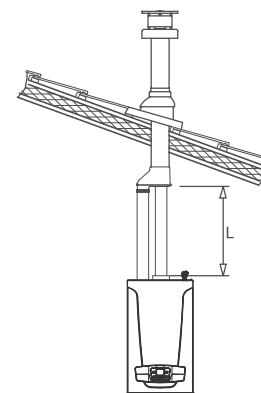
Flue type	C ₅₃		
	HORIZONTAL		
	Dual flue Ø [mm]	Maximum length L ₁ +L ₂ [m]	Inlet pipe maximum length L ₂ [m]
Luna Duo-tec MP+ 1.50	80+80	60	15
Luna Duo-tec MP+ 1.60	80+80	40	15
Luna Duo-tec MP+ 1.70	80+80	30	15
Luna Duo-tec MP+ 1.90	110+110	27	7
Luna Duo-tec MP+ 1.110	110+110	27	7
Luna Duo-tec MP+ 1.130	110+110	20	10
Luna Duo-tec MP+ 1.150	110+110	20	10



Do not fit the flue and air duct terminals on opposite walls of the building.

Note: the minimum slope of the flue pipe toward the boiler must be 5 cm every meter of length.

Flue type	C ₅₃	
	VERTICAL	
	Dual flue Ø [mm]	Maximum length L [m]
Luna Duo-tec MP+ 1.50-1.60-1.70-	80+80	15
Luna Duo-tec MP+ 1.90-1.110-1.130-1.150	110+110	15



For flue pipes provided by BAXI (flue type B23 and C53):

Flue type	Length reduction for each 90° bend insertion [m]	Length reduction for each 45° bend insertion [m]
Coaxial flue Ø 80/125, Ø 110/110	1	0,5
Vertical Dual flue Ø 80+80*, Ø 110/110*	0,5	0,25
Horizontal Dual flue Ø 80+80*, Ø 110/110*	0,5	0,25

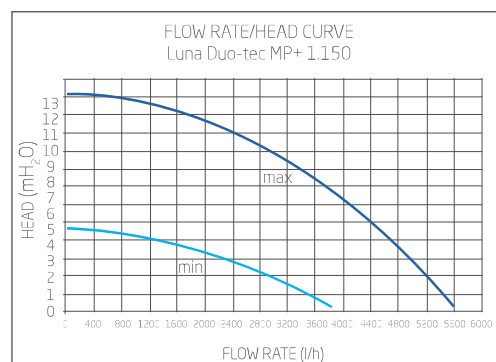
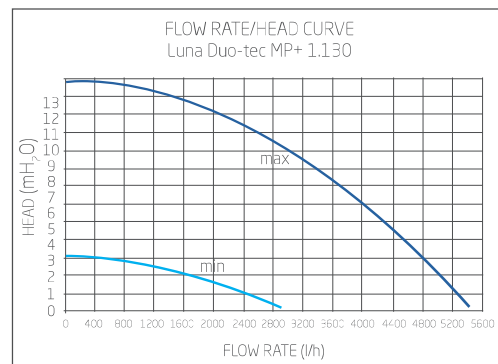
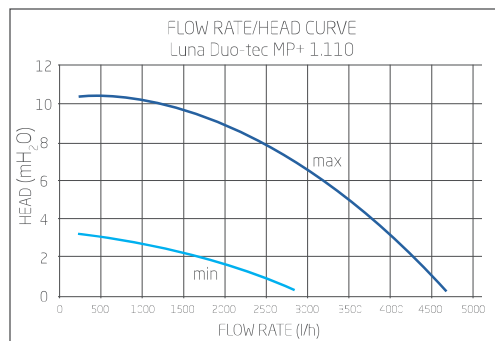
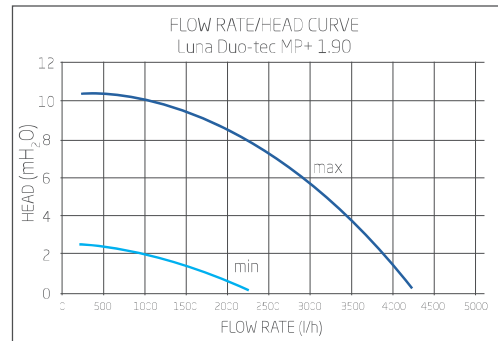
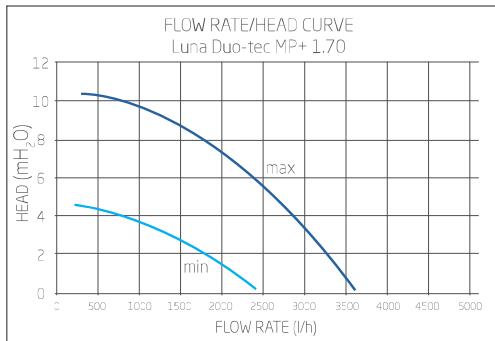
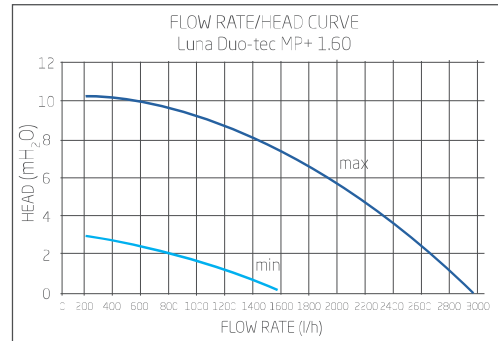
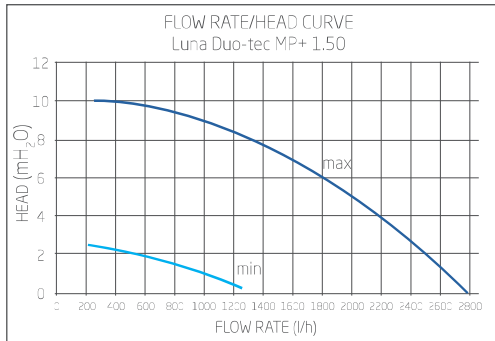
* Air inlet pipe maximum length = 15 m

Pipes maximum lengths are subjected to technical evaluation and must meet the requirements of the prevailing installation standards in the country.

For further information on flue systems, see the boiler installation manual.

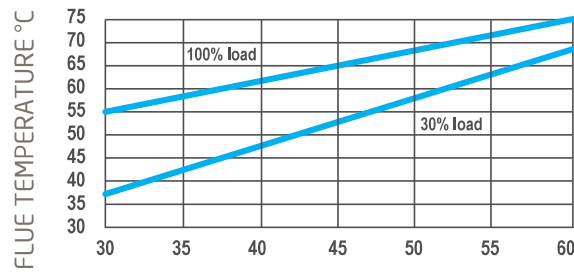
Luna Duo-tec MP/MP+

Flow rate/head curve



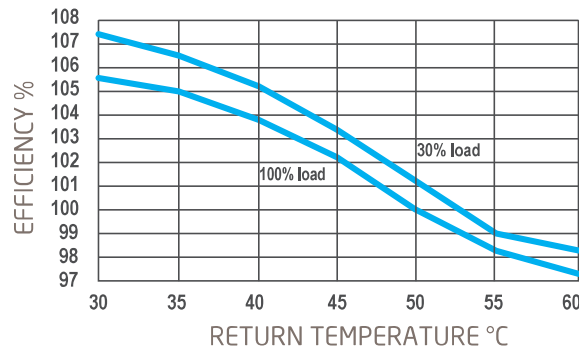
High output condensing systems

FLUE TEMPERATURE/RETURN TEMPERATURE



RETURN TEMPERATURE °C

EFFICIENCY/RETURN TEMPERATURE

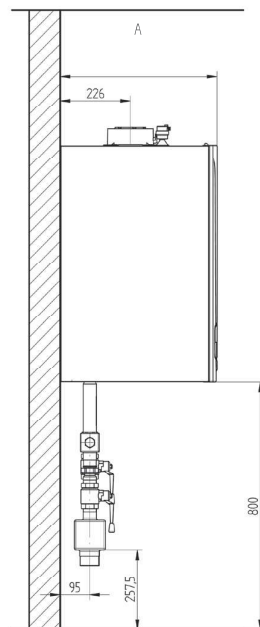
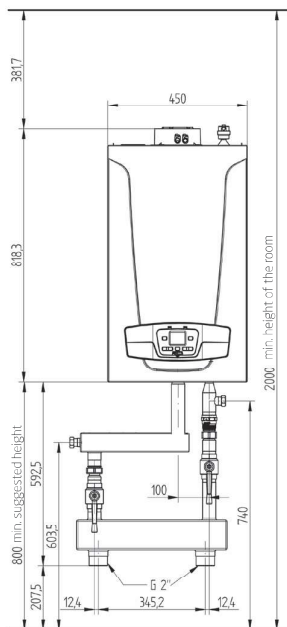


RETURN TEMPERATURE °C

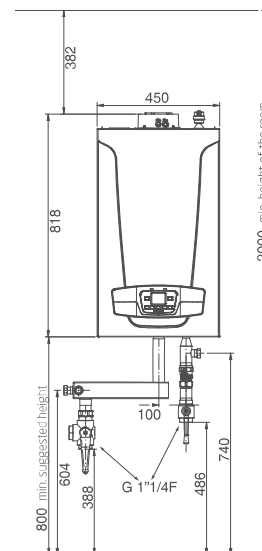
Dimensions Luna Duo-tec MP/MP+ Single installation

Luna Duo-tec MP/MP+ 1.50 - 1.60 - 1.70
(with hydraulic separator)

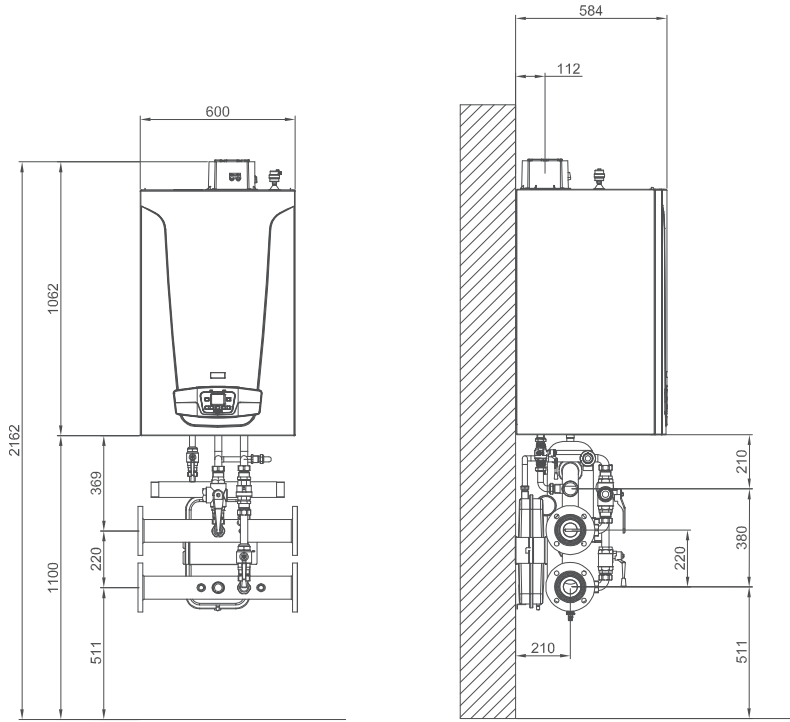
Luna Duo-tec MP+ 1.50 - 1.60 - 1.70
(without hydraulic separator)



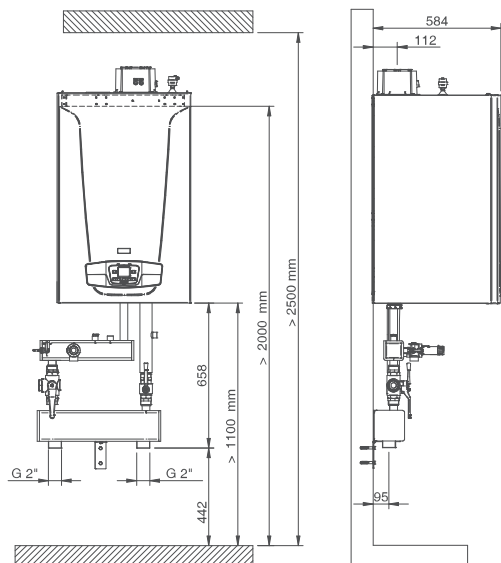
A = 377 (mod. 50-60 kW)
A = 505 (mod. 70 kW)



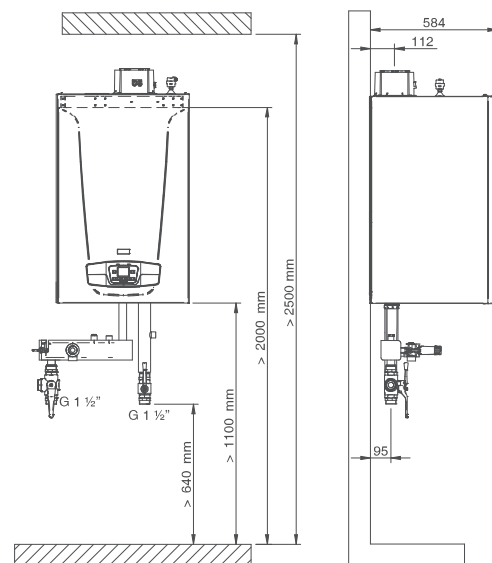
Luna Duo-tec MP/MP+ 1.90-1.110-1.130-1.150
(with flow/return collectors and hydraulic separator)



Luna Duo-tec MP+ 1.90 - 1.110 - 1.130 - 1.150
(without flow/return collectors)
(with hydraulic separator)



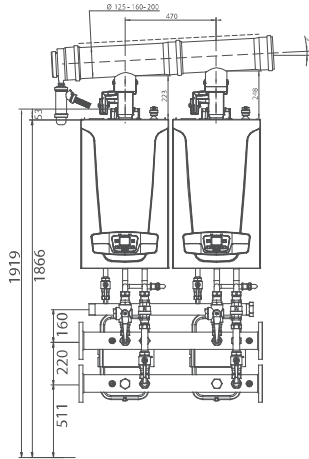
(without hydraulic separator)



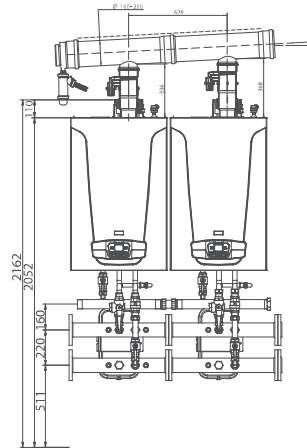
High output condensing systems

Cascade installation with hydraulic separator

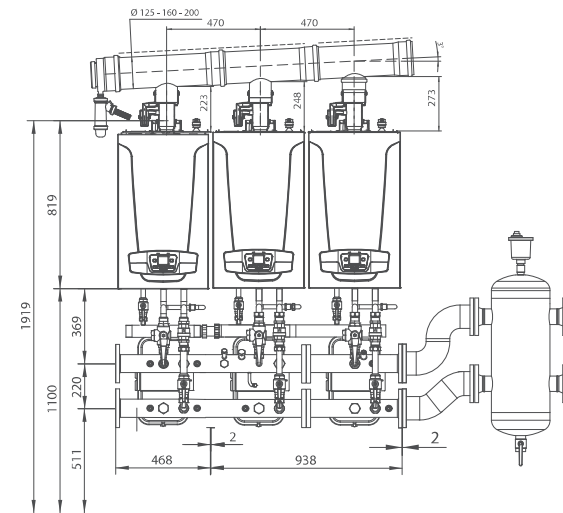
Luna Duo-tec MP/MP+ 1.50 - 1.60 - 1.70



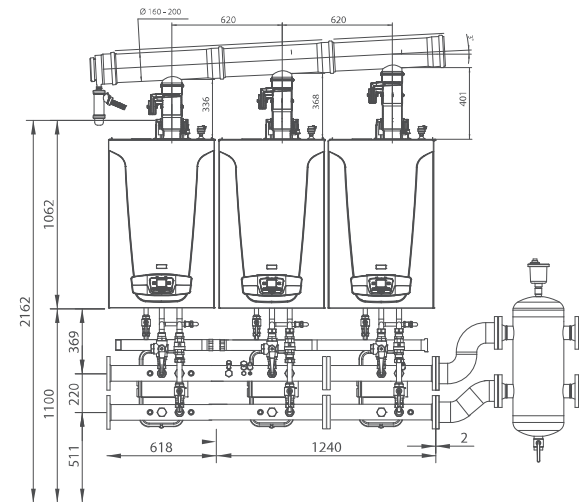
Luna Duo-tec MP/MP+ 1.90 - 1.110-1.130-1.150



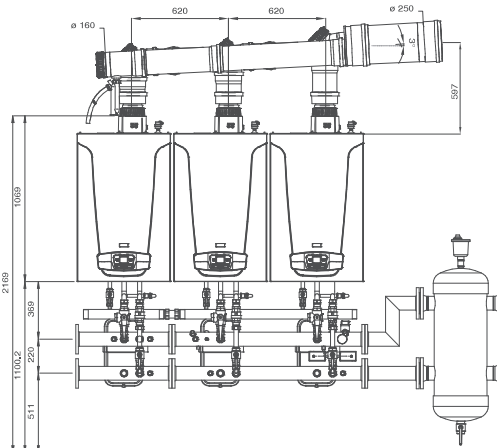
Luna Duo-tec MP/MP+ 1.50 - 1.60 - 1.70



Luna Duo-tec MP/MP+ 1.90 - 1.110



Luna Duo-tec MP/MP+ 1.130-1.150



Frame for Luna Duo-tec MP/MP+

Luna Duo-tec MP/MP+ can be mounted also on the specific metal frame, that allows the installation of the boilers in the middle of the room. The frame is unique for all models, for single and cascade installation.

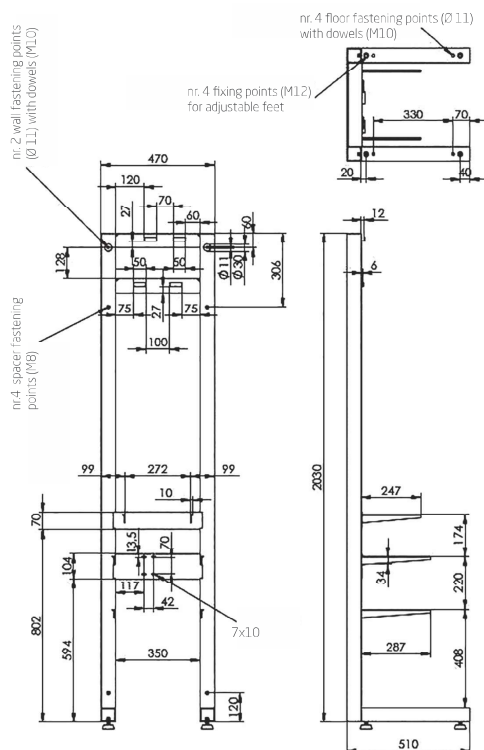


Features

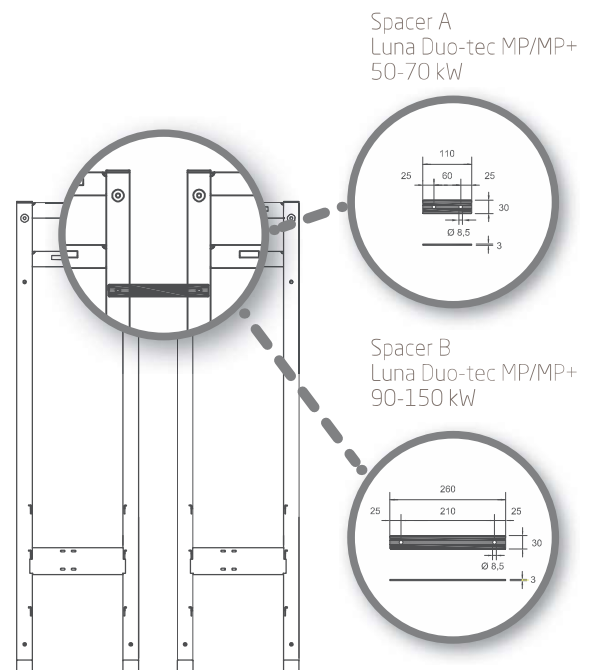
- Dimensions (hxwx) 2030x470x515 mm
- Adjustable feet
- Wall or floor fastening option
- Frame can be installed in the middle of the room
- Easy flow-return-gas manifolds mounting
- In case of **cascade installation**, spacers must be installed depending on the model (spacer A and spacer B). Spacers are supplied with the frame as standard.

Picture and drawings including safety devices - accessories available as optional (not mandatory).

Single installation



Cascade installation



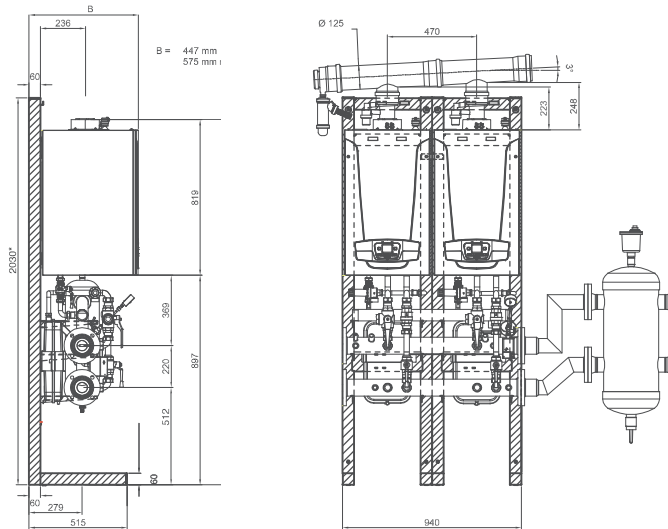
High output condensing systems

Frame dimensions

Luna Duo-tec MP/MP+ 1.50 - 1.60 - 1.70

B = 447 mm mod. 1.50 e 1.60
575 mm mod. 1.70

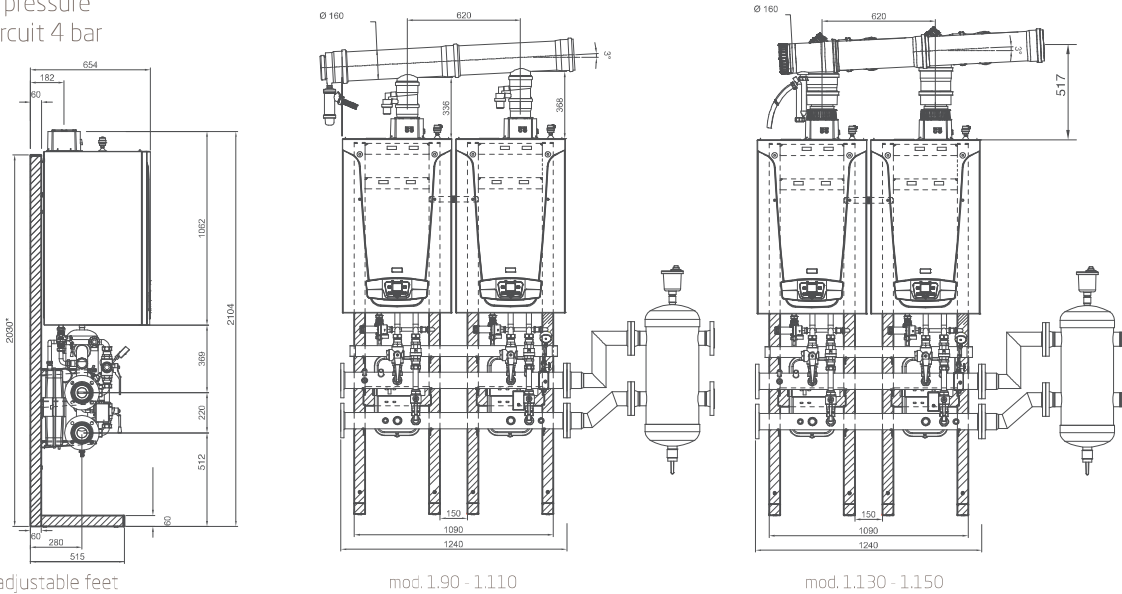
* Excluding adjustable feet



Luna Duo-tec MP/MP+ 1.90 - 1.150

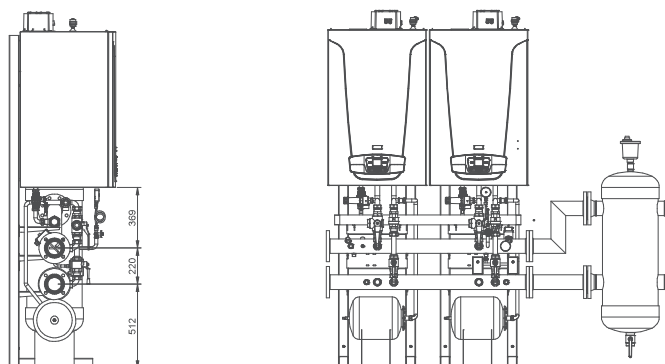
Maximum pressure heating circuit 4 bar

* Excluding adjustable feet



Luna Duo-tec MP/MP+ 1.130 - 1.150

Maximum pressure heating circuit 6 bar



Cabinets for Luna Duo-tec MP/MP+ (GMC+)








GMC+ modular generators are Luna Duo-tec MP/MP+ wall-mounted condensing boilers placed in a cabinet suitable for placing outside buildings. The system includes hydraulic manifolds with safety devices.

The cabinet may contain single generator or in cascade. In the latter case the system requires a cascade controller with climate adjustment function.

Features:

- GMC+ range includes pre-assembled solutions in 1, 2 or 3-door cabinets, suitable for wall hung boilers between 50 and 150 kW (Luna Duo-tec MP/MP+)
- 175 cm height (excluding chimney terminals)
- The hydraulic separator can be located inside, if required
- Included outside sensor
- Hydraulic collectors already insulated and supported by brackets
- Included condensate drain duct
- The product is delivered completely assembled and tested

Model	N°of boilers	LUNA DUO-TEC MP/MP+ solutions	kW total
1 door*		1.50	from 50 kW to 150 kW
		1.60	
2 doors*	 or 	1.70	
		1.90	
		1.110	
		1.130	
		1.150	
3 doors*	 or 	1.50	from 100 kW to 450 kW
		1.60	
		1.70	
		1.90	
		1.110	
		1.130	
		1.150	

(*) An additional 2 or 3 doors cabinet may be ordered to shelter the hydraulic compensator and system accessories from bad weather.