

## Luna Duo-tec MP/MP+ 35-110 kW



- Modulation ratio 1:9 (1:7 mod. 1.35) better efficiency and noiseless operation
- High efficiency full modulating circulating pump (Luna Duo-tec MP+ models)
- Sealed chamber insulation
- Compact dimensions
- Cascade installations (up to 16 boilers)
- 0-10 V control for each boiler or for the cascade system
- Hydraulic accessories to install from 2 to 6 boilers in cascade
- Forced flue solutions for vertical and horizontal configurations

<sup>(1)</sup> mod. MP+ - Products with nominal output > 70 kW are not subjected to energy labelling according to ErP regulation

## Outputs from 35 to 110 kW

### 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

		Heating only					
		MP+ 1.35	MP+ 1.50	MP+ 1.60	MP+ 1.70	MP+ 1.90	MP+ 1.110
Maximum heat input (heating)	kW	34,8	46,3	56,6	66,9	87,4	104,9
Minimum heat input	kW	5,1	5,1	6,3	7,4	9,4	11,4
Rated heat output <i>Prated</i>	kW	34	45	55	65	85	102
Useful heat output at rated heat output and high temperature regime* $P_{u1}$	kW	33,8	45	55	65	85	102
Useful heat output at 30% of rated heat output and low temperature regime** $P_{u2}$	kW	11,2	14,9	18,2	21,5	28,2	33,8
Seasonal space heating energy efficiency class		A	A	A	A	-	-
Seasonal space heating energy efficiency $\eta_s$	%	92	92	92	93	-	-
Useful efficiency at rated heat output and high temperature regime* $\eta_{H1}$	%	87,7	87,7	87,6	87,6	87,7	87,6
Useful efficiency at 30% of rated heat output and low temperature regime** $\eta_{H2}$	%	97	97,1	96,8	96,5	96,8	96,8
Efficiency $P_{H1}$ (lower calorific value) - average temperature 70 °C	%	97,3	97,3	97,3	97,3	97,3	97,3
Efficiency 30% (lower calorific value) - return temperature 30 °C	%	107,7	107,8	107,4	107,1	107,8	107,4
NOx emissions	mg/kWh	29	29	31	31	31	22
Minimum working temperature	°C	-5	-5	-5	-5	-5	-5
Heating temperature range	°C	25-80	25-80	25-80	25-80	25-80	25-80
Minimum pressure heating circuit	bar	0,5	0,5	0,5	0,5	0,5	0,5
Maximum pressure heating circuit	bar	4	4	4	4	4	4
Coaxial flue system	ø mm	80/125	80/125	80/125	80/125	110/160	110/160
Dual flue system	ø mm	80	80	80	80	110	110
Maximum flue mass flow rate	kg/s	0,016	0,021	0,026	0,031	0,040	0,047
Minimum flue mass flow rate	kg/s	0,002	0,002	0,003	0,004	0,005	0,005
Maximum flue temperature	°C	76	80	80	74	70	70
Dimensions (h x l x p)	mm	766x450x377		766x450x505		952x600x584	
Net weight	kg	40	40	40	50	83	93
Gas type		Natural gas/LPG					
Power consumption	W	180	230	230	230	275	320
Auxiliary electrical power consumption - Full load $e_{lmax}$	kW	0,070	0,080	0,095	0,095	0,130	0,165
Auxiliary electrical power - Partial load $e_{lmin}$	kW	0,020	0,020	0,020	0,020	0,017	0,018
Auxiliary electrical power - Stand-by $P_{sb}$	kW	0,003	0,003	0,003	0,003	0,003	0,003
Sound power level, indoor $L_{wa}^{***}$	dB	58	62	59	62	-	-
Grade of protection		IPX5D	IPX5D	IPX5D	IPX5D	IPX5D	IPX5D

\*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)

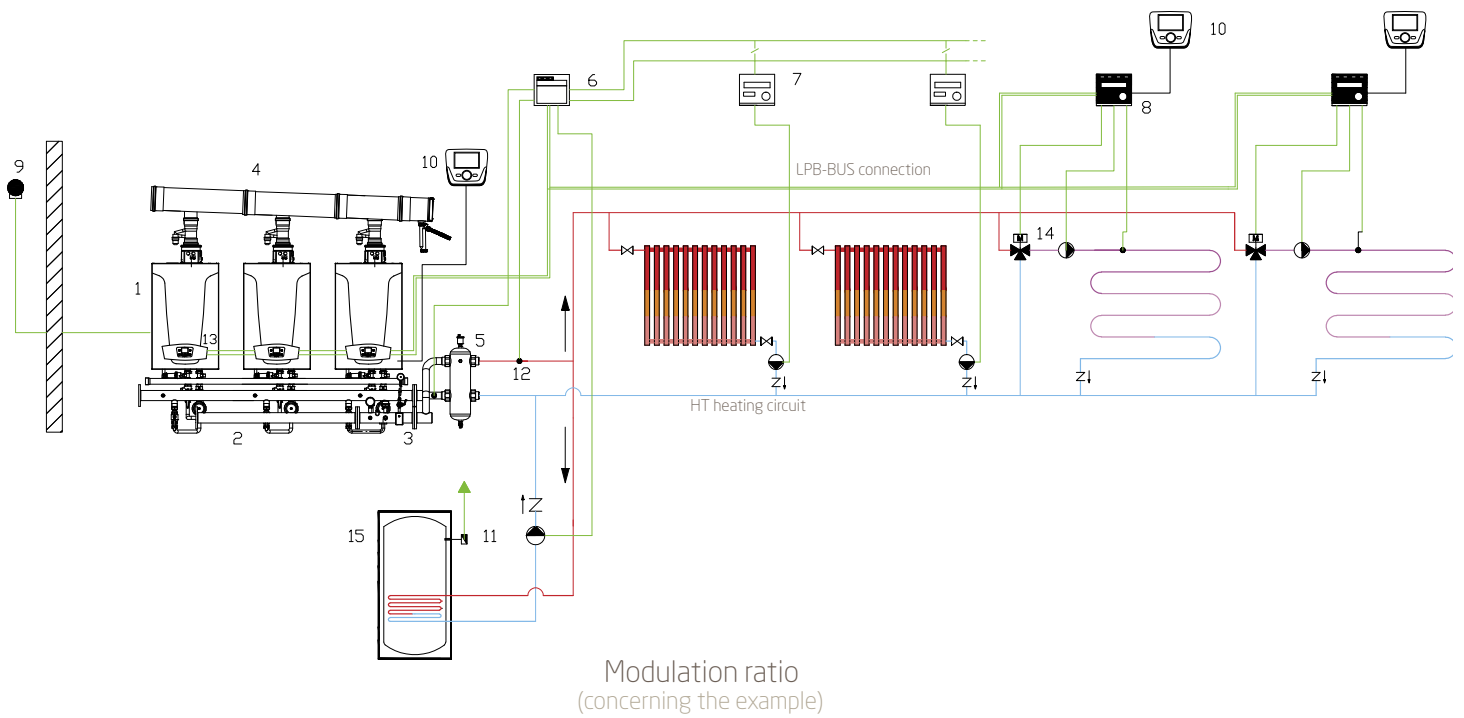
\*\*\*Data not required for boilers with nominal output > 70 kW

## Cascade systems



### Luna Duo-tec MP+ 110 kW

Installation example: multi-zone system, CH and DHW production with Luna Duo-tec MP+ 110 kW.  
Climatic regulation: outdoor sensor and independent zones control with room thermostat



15kW

330kW

Cascade installation in a multi-dwelling building with CH and DHW production with centralized tank, independent zones, control with room thermostat.

- |                           |   |
|---------------------------|---|
| 1 = Luna Duo-tec MP+      | 8 = controller for mixing zones THINK (RVS46)       |
| 2 = hydraulic accessories | 9 = outdoor sensor                                  |
| 3 = INAIL safety group    | 10 = remote control THINK                           |
| 4 = flue pipes            | 11 = sensor   |
| 5 = hydraulic compensator | 13 = interface kit for boilers in cascade (OCI 345) |
| 6 = external module THINK | 14 = mixing valve                                   |
| 7 = thermostat            | 15 = DHW tank                                       |

OCI 345 devices must be connected to each others and with controller for mixing zones THINK through MB-DB terminals.

## Cabinets for high output condensing boilers (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 35 and 110 kW (Luna Duo-tec MP/MP+)
- 175 cm height (excluding chimney terminals)
- The hydraulic separator can be located inside, if required
- Outside sensor included
- Hydraulic collectors already insulated and supported by brackets
- Condensate drain duct already included inside
- The product is delivered completely assembled and tested

Model	N°of boilers	LUNA DUO-TEC MP/MP+ solutions	kW total
1 door*		1.35 1.50 1.60 1.70	35 50 90 110
		1.90 1.110	
2 doors*		1.35 1.50 1.60 1.70 1.90 1.110	from 35 kW to 220 kW
3 doors*		1.35 1.50 1.60 1.70 1.90 1.110	from 35 kW to 330 kW

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

## Frame for Luna Duo-tec MP/MP+

Luna Duotec 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.

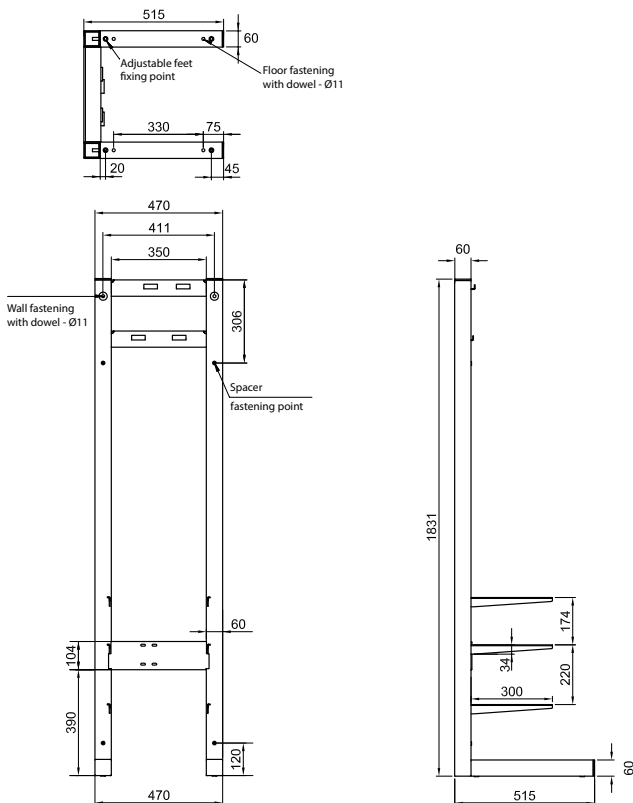


### Features

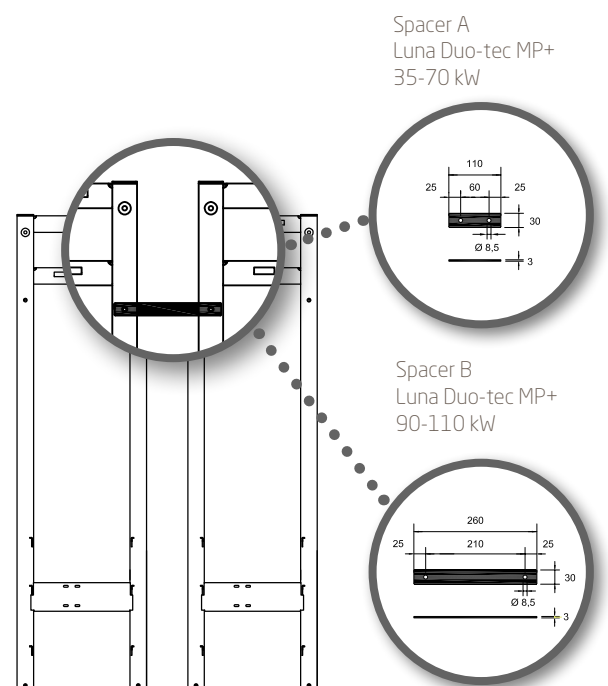
- Dimensions (hxxwxd) 1831x470x515 mm.
  - Adjustable feet
  - Wall or floor fastening option
  - Frame can be installed in the middle of the room
  - Easy flow-return-gas manifolds mounting
- In case of **cascade installation**, spacers must be installed depending on the model (spacer A and spacer B). Spacers are supplied with the frame as standard.

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

### Single installation



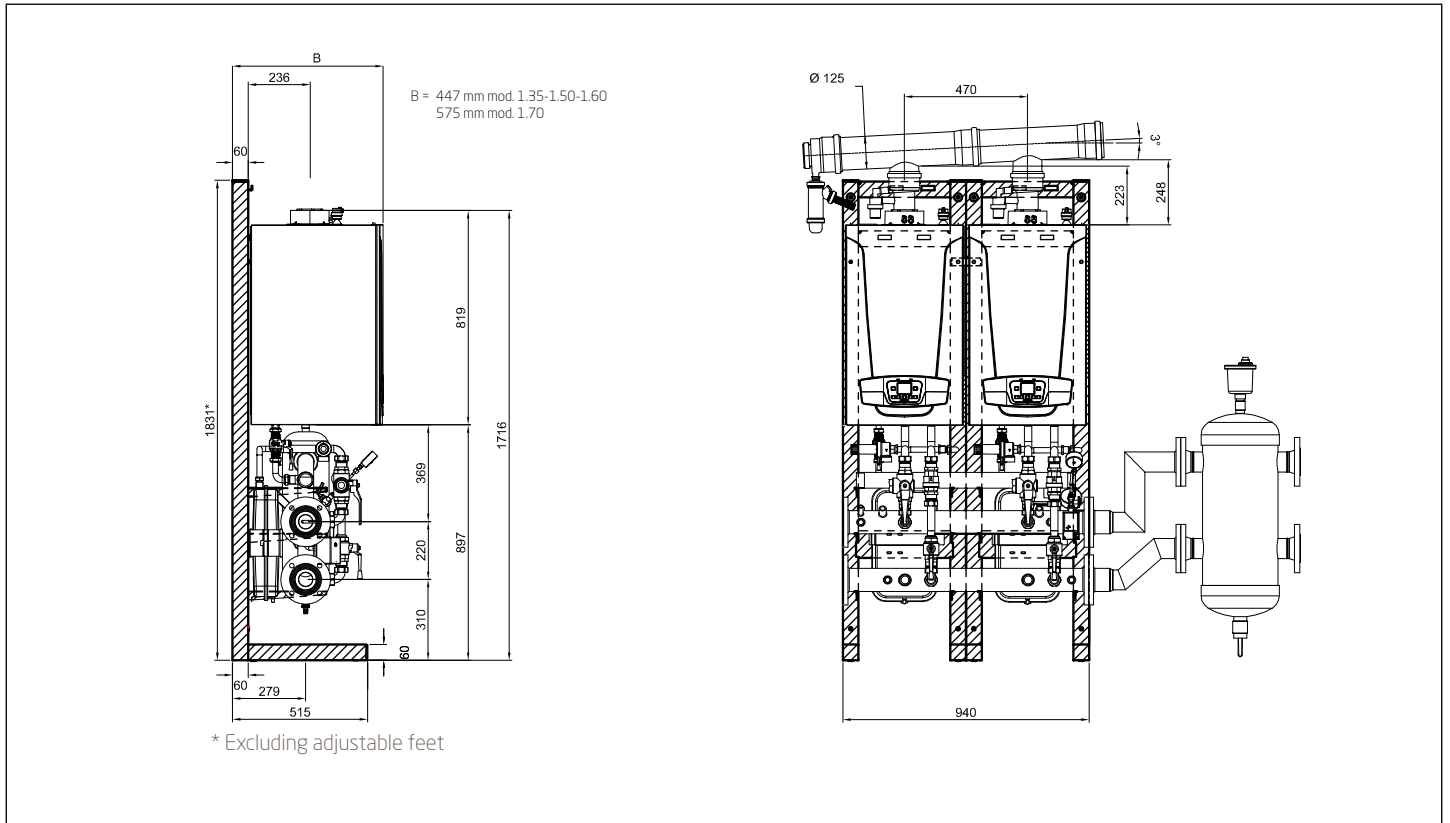
### Cascade installation



# High output condensing systems

## Frame dimensions

### Luna Duo-tec MP/MP+ 1.35-1.50-1.60-1.70



### Luna Duo-tec MP/MP+ 1.90-1.110

