GAS P130/MCE LX4 EL EVO - GAS P160/MCE LX4 EL

Gas burners with electronic control box. Two stages progressive or modulating operation (if equipped with addition of optional modulation kit PID and probe; to guarantee an ideal proportionality of the power supplied to the thermal load).
Composed by: die-cast aluminum body ,high pressurisation air blower and combustion head at high efficiency and high flame stability. Compact overall dimensions and disposition rationalized of the components with accessibility facilitated for easy setting and maintenance.
Available in the versions METHANE (natural gas) or L.P.G. (to specify at the order).
Gas train completely assembled and tested; composed by working valve with flow adjustment, safety valve, minimum gas pressure switch, valve proving system and gas filter + gas pressure stabiliser.
Complete of flange and gasket for installation on generator.

The servomotors are indipendent and managed directly from the electronic control box of the burner: one servomotor for the gas modulator and one servomotor for the air shutter.
The burners are equipped with a display that allows to:

- adjust the operating parameters of the burner
- visualize the flame intensity
- adjust the operating curve of the burner (air / gas ratio)

With the addition of optional accessories (probes) thanks to the most advanced systems for automatic modulation in mechanical or electronic version, the burner constantly ensures the proper gas / air ratio.
The maximum efficiency of the returns in each combustion point derived from the punctual adaptation of the thermal load to the heat requirements of the burner at any instant of operation.
In the version with the electronic cam the fuel / combustion air curve, more extended, is fully exploited, guaranteeing excellent performance in terms of accuracy and speed, even during the calibration phase.
A microprocessor monitors the different stages of the process and allows the correct repetition of the sequences of operation.
Optional accessories: PID power modulator kit, probe, PC interface, VSD, O2 control, O2 + CO control, field bus (profibus, modbus, profinet).

Fig. GAS P130/MCE LX4 EL EVO

CONTROL BOX LAMTEC BT3

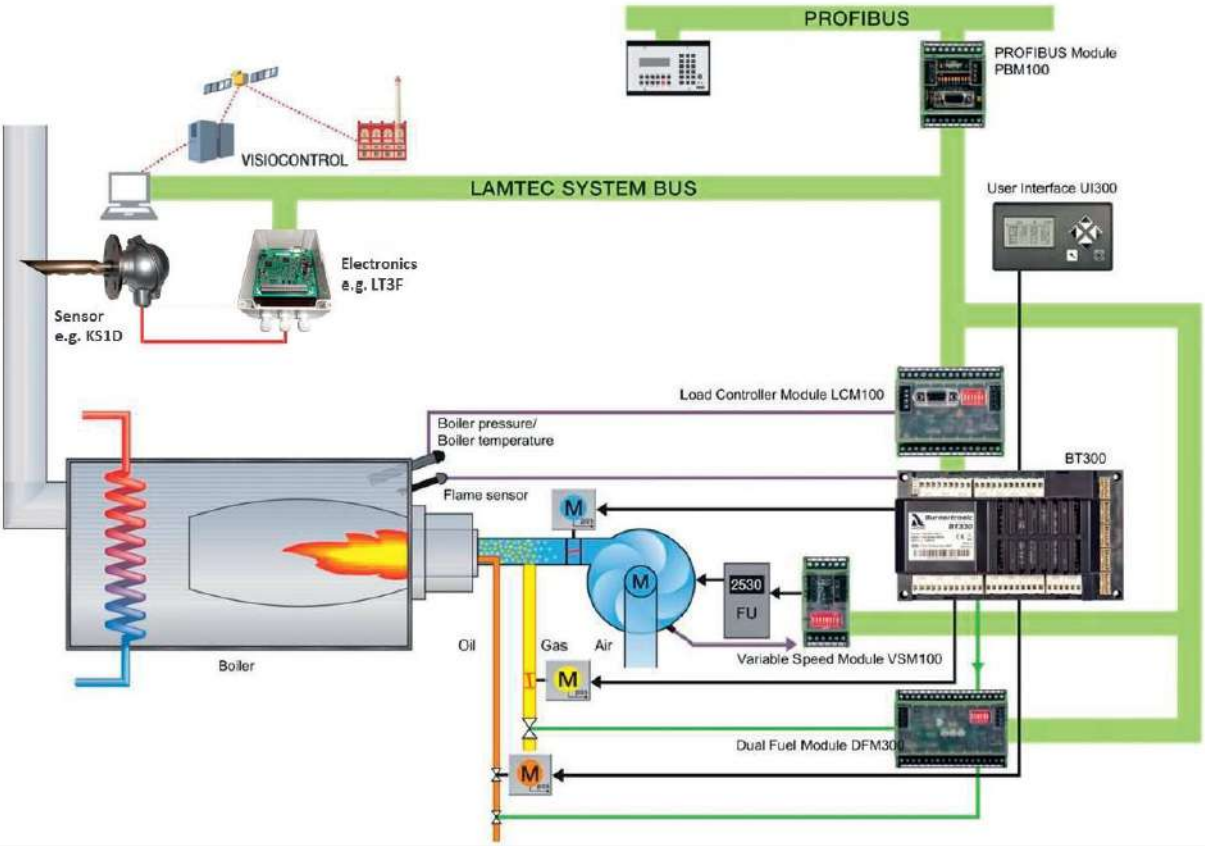


Fig. Control box Lamtec BT3

TECHNICAL DATA GAS P130/MCE LX4 EL EVO - NATURAL GAS -

MODEL		GAS P130/MCE LX4 EL EVO
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	241/612-1247
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	280/712-1450
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	28.2/71.5-146
Fuel: NATURAL GAS (second family)		
Fuel category:	I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL,I2E(R)	
Intermitted working operation (min. 1 stop every 24 hours) modulating		
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60
Min. pressure gas train D2"-S NATURAL GAS **	[mbar]	52.8
Min. pressure gas train D2"-S MBE NATURAL GAS **	[mbar]	--
Min. pressure gas train DN65-FS65 NATURAL GAS **	[mbar]	35.5
Min. pressure gas train DN80-FS80 NATURAL GAS **	[mbar]	29.8
Maximum pressure at the entry of valves (D2")	[mbar]	360
Maximum pressure at the entry of valves (D2" MBE - DN65 - DN80)	[mbar]	500
Nominal electric power	[kW]	2.4
Fan motor	[kW]	2.2
Nominal motor current absorption	[A]	4.35
Nominal auxiliary absorption	[A]	0.7
Power supply:	3~400V, 1/N~230V-50Hz	
Electric protection degree:	IP 54	
NOx Class, NATURAL GAS (second family)	4	
Noisiness *** min. - max.	[dB(A)]	81-82

* Reference conditions: Environment temperature 20°C - Barometric pressure 1013mbars - Altitude 0 metre (sea level).
** Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).
*** Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law - Control method class 3 - The measured sound pressure tolerance can be assumed to be ± 1 [dB (A)]).

TECHNICAL DATA GAS P130/MCE LX4 EL EVO - L.P.G. -

MODEL		GAS P130/MCE LX4 EL EVO
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	258/612-1247
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	300/712-1450
Gas flow G31 (L.P.G.) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	11.6/27.6-56.2
Fuel: L.P.G. (third family)		
Fuel category:	I3B/P,I3+,I3P,I3B,I3R	
Intermitted working operation (min. 1 stop every 24 hours) modulating		
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60
Min. pressure gas train D2"-S L.P.G. **	[mbar]	38.9
Min. pressure gas train D2"-S MBE L.P.G. **	[mbar]	--
Min. pressure gas train DN65-FS65 L.P.G. **	[mbar]	33
Min. pressure gas train DN80-FS80 L.P.G. **	[mbar]	30.2
Maximum pressure at the entry of valves (D2")	[mbar]	360
Maximum pressure at the entry of valves (D2" MBE - DN65 - DN80)	[mbar]	500
Nominal electric power	[kW]	2.4
Fan motor	[kW]	2.2
Nominal motor current absorption	[A]	4.35
Nominal auxiliary absorption	[A]	0.7
Power supply:	3~400V, 1/N~230V-50Hz	
Electric protection degree:	IP 54	
NOx Class, L.P.G. (third family)	4	
Noisiness *** min. - max.	[dB(A)]	81-82

* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).
** Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).
*** Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law - Control method class 3 - The measured sound pressure tolerance can be assumed to be ± 1 [dB (A)]).

TECHNICAL DATA GAS P160/MCE LX4 EL - NATURAL GAS -

MODEL		GAS P160/MCE LX4 EL
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	206/765-1647
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	240/890-1915
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	24/89.5-192
Fuel: NATURAL GAS (second family)		
Fuel category:	I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL,I2E(R)	
Intermitted working operation (min. 1 stop every 24 hours) modulating		
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60
Min. pressure gas train D2"-S NATURAL GAS **	[mbar]	82.9
Min. pressure gas train D2"-S MBE NATURAL GAS **	[mbar]	67.4
Min. pressure gas train DN65-FS65 NATURAL GAS **	[mbar]	54.2
Min. pressure gas train DN80-FS80 NATURAL GAS **	[mbar]	44.2
Maximum pressure at the entry of valves (D2")	[mbar]	360
Maximum pressure at the entry of valves (D2" MBE - DN65 - DN80)	[mbar]	500
Nominal electric power	[kW]	4.2
Fan motor	[kW]	4
Nominal motor current absorption	[A]	7.45
Nominal auxiliary absorption	[A]	0.7
Power supply:	3~400V, 1/N~230V-50Hz	
Electric protection degree:	IP 54	
NOx Class, NATURAL GAS (second family)	4	
Noisiness *** min. - max.	[dB(A)]	81-82

* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).
** Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).
*** Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law - Control method class 3 - The measured sound pressure tolerance can be assumed to be ± 1 [dB (A)]).

TECHNICAL DATA GAS P160/MCE LX4 EL - L.P.G. -

MODEL		GAS P160/MCE LX4 EL
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	258/765-1647
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	300/890-1915
Gas flow G31 (L.P.G.) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	11.6/34.5-74.2
Fuel: L.P.G. (third family)		
Fuel category:	I3B/P,I3+,I3P,I3B,I3R	
Intermitted working operation (min. 1 stop every 24 hours) modulating		
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%	
Max. temperature combustion air	[°C]	60
Min. pressure gas train D2"-S L.P.G. **	[mbar]	44
Min. pressure gas train D2"-S MBE L.P.G. **	[mbar]	37.8
Min. pressure gas train DN65-FS65 L.P.G. **	[mbar]	32.8
Min. pressure gas train DN80-FS80 L.P.G. **	[mbar]	28.9
Maximum pressure at the entry of valves (D2")	[mbar]	360
Maximum pressure at the entry of valves (D2" MBE - DN65 - DN80)	[mbar]	500
Nominal electric power	[kW]	4.2
Fan motor	[kW]	4
Nominal motor current absorption	[A]	7.45
Nominal auxiliary absorption	[A]	0.7
Power supply:	3~400V, 1/N~230V-50Hz	
Electric protection degree:	IP 54	
NOx Class, L.P.G. (third family)	4	
Noisiness *** min. - max.	[dB(A)]	81-82

* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level).
** Minimal feeding-gas pressure to the gas train to get the maximum power of the burner, considering counter-pressure in combustion chamber of value 0 (zero).
*** Measured sonorous pressure in the laboratory combustion, with functional burner on beta boiler to 1 metre of distance (UNI EN ISO 3746 law - Control method class 3 - The measured sound pressure tolerance can be assumed to be ± 1 [dB (A)]).

OPERATING RANGE DIAGRAMS

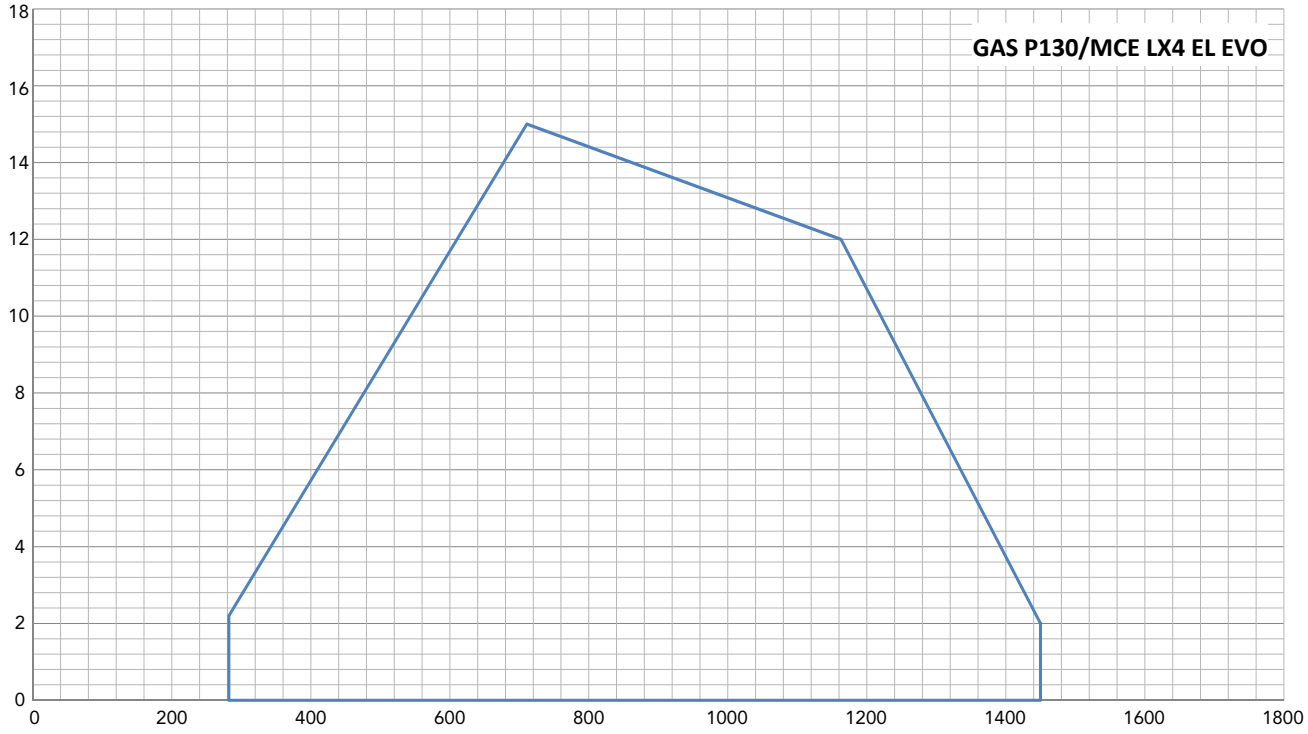


Fig. X = Thermal power [kW] Y = Pression in the combustion chamber [mbar]

For L.P.G. Minimum 1st stage power: 300 kW.
The firing rates has been obtained based on test boilers in accordance with EN676 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

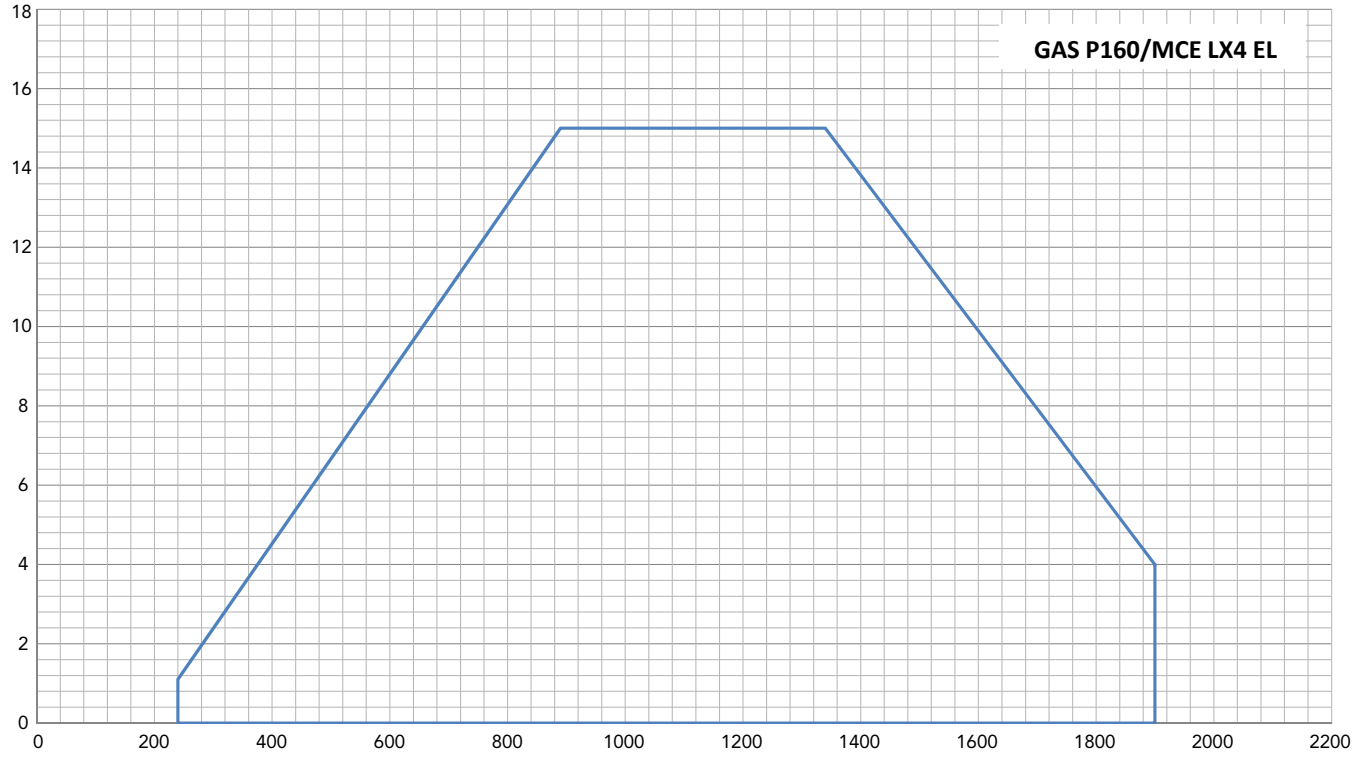


Fig. X = Thermal power [kW] Y = Pression in the combustion chamber [mbar]

For L.P.G. Minimum 1st stage power: 300 kW.
The firing rates has been obtained based on test boilers in accordance with EN676 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

DIMENSIONS GAS P130/MCE LX4 EL EVO [mm]

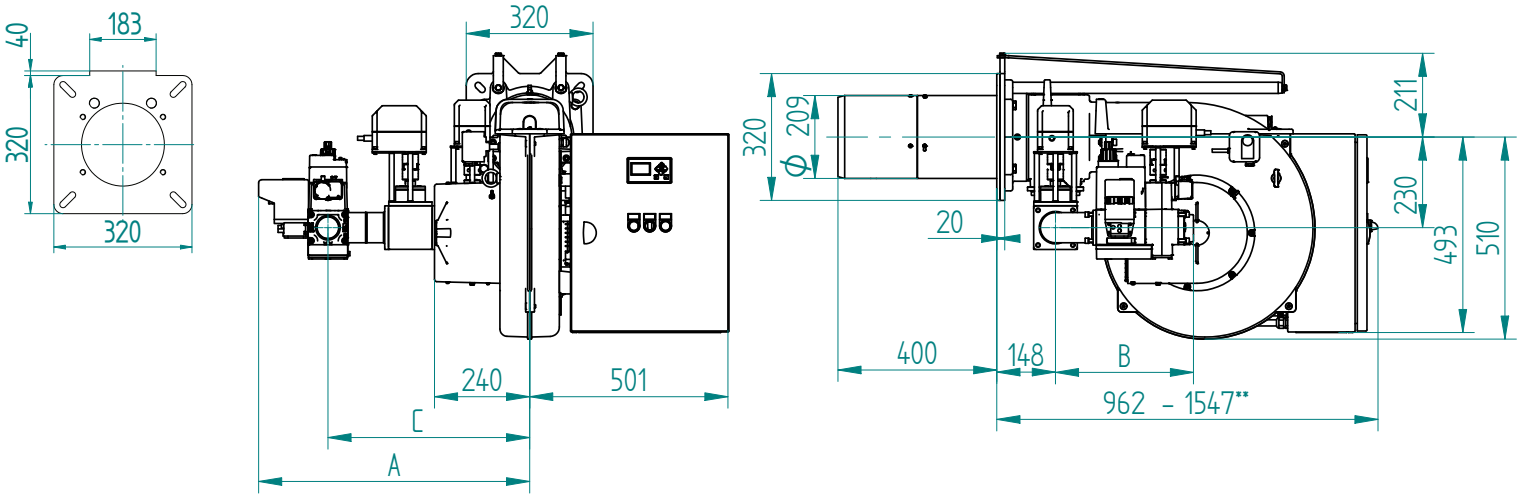


Fig. Dimensions GAS P130/MCE LX4 EL EVO

GAS TRAIN	A	B	C
D2"-S	684	350	510
DN65-FS65	686	393	510
DN80-FS80	740	433	550

** Overall dimension with the burner out in position of maintenance.

TC - TL: see "flame tube length"

DIMENSIONS GAS P160/MCE LX4 EL [mm]

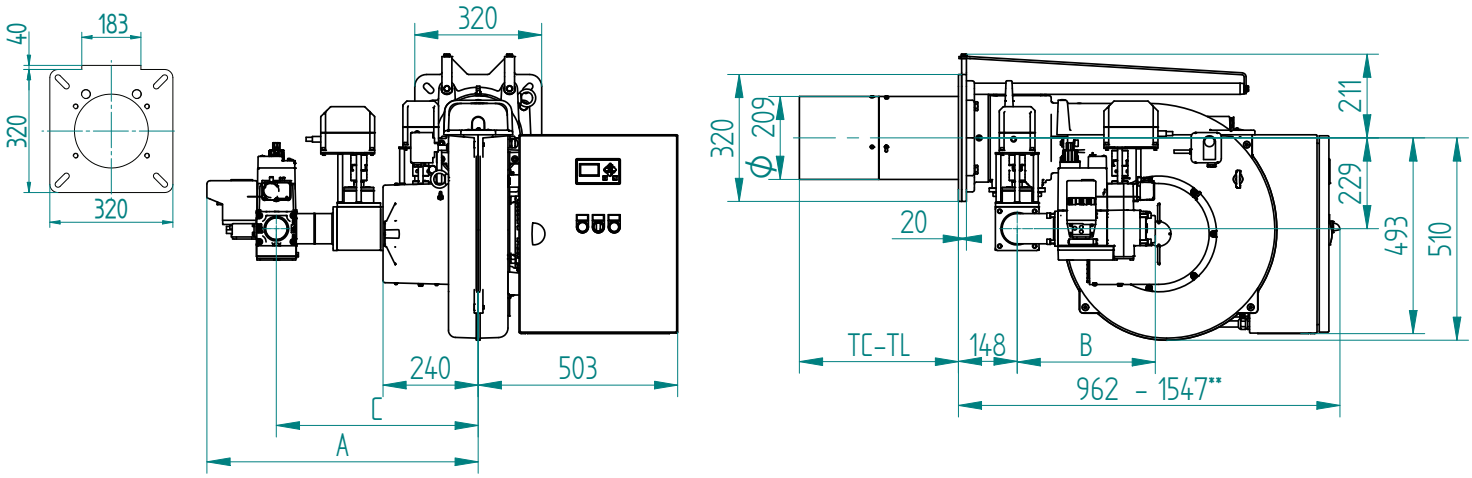


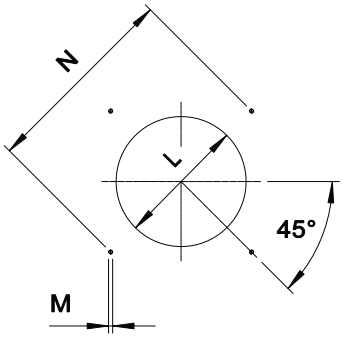
Fig. Dimensions GAS P160/MCE LX4 EL

GAS TRAIN	A	B	C
D2"-S	684	350	510
DN65-FS65	686	393	510
DN80-FS80	740	433	550

** Overall dimension with the burner out in position of maintenance.

TC - TL: see "flame tube length"

BOILER PLATE



The dimensions of the boiler plate must be as indicated in the drawing.

*** Suggested dimension of connection between burner and generator.

MODEL		L min	L***	L max	M	N min	N max
GAS P130/MCE LX4 EL EVO	mm	220	220	250	M14	340	368
GAS P160/MCE LX4 EL	mm	220	220	250	M14	340	368

FLAME TUBE LENGTH

Flame tube length must be selected based on the specifications supplied by boiler manufacturer and, in any case, it must be greater than the thickness of the boiler door included its insulation.
In case of boilers with flame inversion or front flue combustion chambers, it is necessary to insulate the area between the flame tube and front door with refractory material. This protection material must not impede flame tube extraction.

FLAME TUBE LENGTH		
TC	mm	280
TL	mm	400 ****

**** For different flame lengths, please contact our Technical-Sales Department.

BURNER CONTROL PANEL

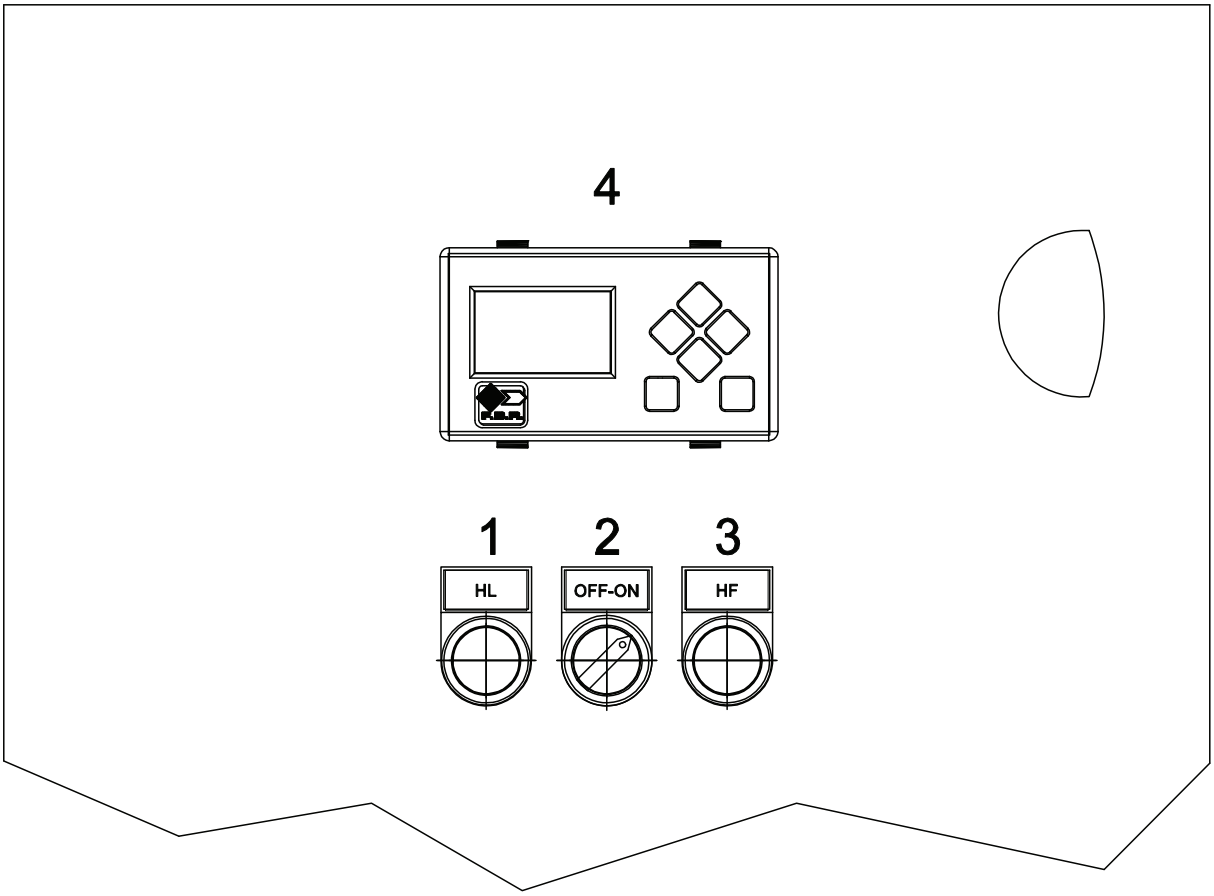


Fig. Burner control panel

LEGEND

1) HL: line lamp
2) OFF-ON: OFF-ON switch
3) HF: operation lamp
4) Display

PRODUCT SPECIFICATION

SHORT DESCRIPTION

Gas burners two stages progressive or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe low emissions class 4 (NOx < 60 mg/kWh).

DETAILED SPECIFICATION

Gas burners two stages progressive or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe low emissions class 4 (NOx < 60 mg/kWh); composed by:

- Die-cast aluminum body;
- High pressurisation air blower, with reversed blades for model GAS P130/MCE LX4 EL EVO;
- Combustion head at high performance and elevated flame stability equipped with inox steel blast tube and inox steel flame disc;
- Flange and insulating gasket for fixing at boiler;
- Three-phase power supply;
- Burner electrical panel with: display with lock-out reset button, white led for power supply presence, green illuminated switch ON/OFF, green led for flame alight;
- Safety air pressure switch to stop the burner in lock-out in case of failed or anomalous fan operation;
- Gas train with safety valve class A, adjustment valve class A, valve proving system;
- Ionisation probe for flame detection;
- IP 54 electric protection level;
- Spherical gas valve servo-controlled; progressive start and free way passage with total opening;
- Servomotor for air shutter;
- Servomotor for spherical gas valve;
- Moving shutter with total closure when idle in order to reduce at the least energy losses related to boiler cooling down;
- Easy extraction of combustion head without get off the burners by bolier;
- Maximum gas pressure switch to stop the burner in lock-out in case of the gas pressure is higher then the set point value;
- Set up for the additional specific kit that transforms burner operation as modulating i.e. the modulating kit allows to supply any power between the minimun and the maximum value based on instantaneous loading request.
- Supports and tierods for burner extraction.

CONFORMING TO:

- CE rules;
- 2014/30/UE Directive E.M.C.;
- 2014/35/UE Directive L.V.;
- 2006/42/CE - 2006/42/EG - 2006/42/EC Directive M.D.;
- GAS 2016/426/UE Regulation;
- Reference rules: EN676 (gas) – EN 746-2 (industrial thermoprocessing equipment).

STANDARD EQUIPMENT

- Isomart gasket;
- Flange with insulating gasket;
- Burner nameplate;
- Warranty;
- Instruction handbook for installation, use and maintenance.

OPTIONAL

- Power modulating kits for temperatures;
- Power modulating kits for pressures;
- Kit for input 4-20mA / 0-10Vdc;
- Temperature probe 0°C-400°C (PT 100 a 0° C);
- Temperature probe 0°C-350°C (J probe);
- Temperature probe 0°C-1200°C (K probe);
- Pressure probe 0-3 bar, 0-6 bar. 0-16 bar, 0-20 bar, 0-30 bar;
- Sensors and system for O2 control (is suggest to add the VSD);
- Sensors and system for CO control (is suggest to add the VSD);
- Sensors and system for O2-CO control (is suggest to add the VSD);
- Modules for field BUS (modbus - profibus - profinet);
- Noise protection;
- Antivibration couplings;
- Handle gas taps.