

## GAS P 750-1000-1300-1500-1800/M EL



Burners for gas two stages progressive (hi-low flame) or modulating (PID fully modulating) equipped with electronic control box (Lamtec BT3). Fan at high pressurisation, combustion head with adjustment at high efficiency and high flame stability. Equipped with ignition pilot flame.

Disposition rationalized of the components with accessibility facilitated for the operations of setting and maintenance.

Gas train complete of working valve with flow adjustment, safety valve, gas pressure switch, filter stabiliser of gas pressure, completely assembled, electrically linked and tested.

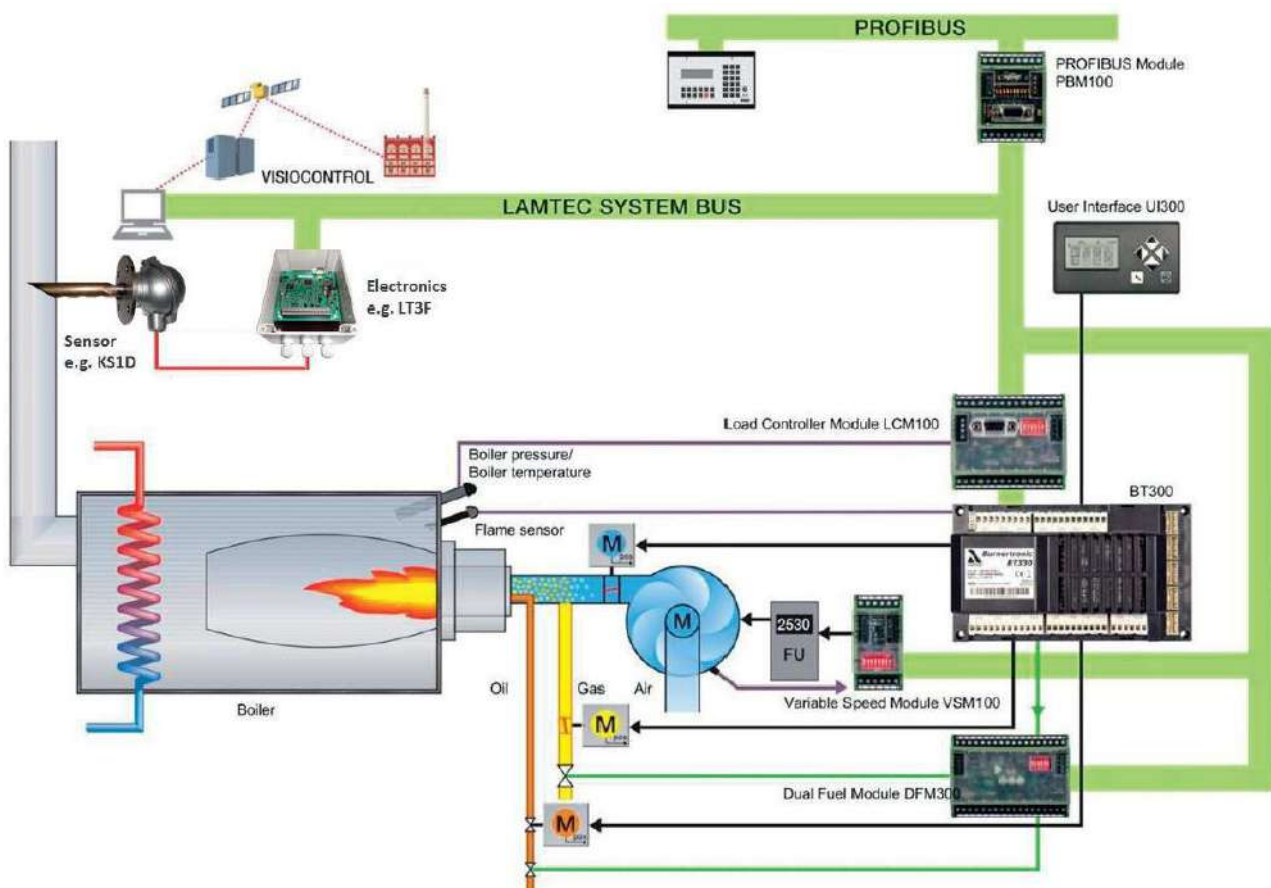
The burners are equipped with an operating display that allows:

- Adjustment of the parameters of the burner operation
- Adjustment of the setpoint and operation range of the pressure / temperature probe
- Adjustment of the burner's curveset

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.

Some accessories are available, like: PC interface, VSD (inverter), O2 control, O2 + CO control, field bus (profibus, modbus, profinet).



## TECHNICAL DATA

MODEL		<b>GAS P750/M-EL</b>	<b>GAS P1000/M-EL</b>	<b>GAS P1300/M-EL</b>
Thermal power 1°st./min 2°st.-max 2°st. *	[Mcal/h]	1200/3400-7500	1200/3400-10000	1700/3600-11500
Thermal power 1°st./min 2°st.-max 2°st. *	[kW]	1395/3953-8721	1395/3953-11628	1977/4186-13372
Gas flow G20 //(NATURAL GAS) 1°st./min 2°st.-max 2°st. *	[Nm³/h]	140/398-877	140/398-1170	199/421-1345
Gas flow G31 //(LPG) 1°st./min 2°st.-max 2°st. *	[Nm³/h]	54/153-338	54/153-450	77/162-518
Fuel		Natural gas (second family) - LPG (third family)		
Fuel category		I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL,I2E(R) / I3B/P,I3+,I3P,I3B,I3R		
<b>Intermittent working operation (min. 1 stop every 24 hours) two stage progressive or modulating</b>				
Environmental conditions operation / storage		0...+40°C / -20...+70°C , rel. humidity max. 80%		
Max temperature combustion air	[°C]	60	60	60
Minimum gas train pressure (DN65-S-F65 natural gas/ LPG)**	[mbar]	271/105	510/-	320/-
Minimum gas train pressure (DN80-S-F80 natural gas/ LPG)**	[mbar]	156/60	285/110	366/141
Minimum gas train pressure (DN100-S-F100 natural gas/ LPG)**	[mbar]	101/39	176/68	248/95
Minimum gas train pressure (DN125-S-F125 natural gas/ LPG)**	[mbar]	-/-	130/50	180/70
Maximum supply gas pressure (Pe.max)	[mbar]	500	500	500
Nominal electric power	[kW]	22.2	30.2	37.2
Fan motor	[kW]	22	30	37
Nominal absorption current (powers)	[A]	42	56	68
Nominal absorption current (auxiliary)	[A]	0.4	0.4	0.4
Power supply		3~400V-1/N~230V-50Hz		
Electric protection degree		IP40	IP40	IP40
Sound level*** min-max	[dB(A)]	84-88	86-92	86-93
Burner weight	[kg]	540	570	590

MODEL		<b>GAS P1500/M-EL</b>	<b>GAS P1800/M-EL</b>
Thermal power 1°st./min 2°st.-max 2°st. *	[Mcal/h]	1700/3600-13000	2000/5000-15000
Thermal power 1°st./min 2°st.-max 2°st. *	[kW]	1977/4186-15116	2325/5814-17442
Gas flow G20 //(NATURAL GAS) 1°st./min 2°st.-max 2°st. *	[Nm³/h]	199/421-1520	234/585-1754
Gas flow G31 //(LPG) 1°st./min 2°st.-max 2°st. *	[Nm³/h]	77/162-586	90/225-676
Fuel		Natural gas (second family) - LPG (third family)	
Fuel category		I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL,I2E(R) / I3B/P,I3+,I3P,I3B,I3R	
<b>Intermittent working operation (min. 1 stop every 24 hours) modulating</b>			
Environmental conditions operation / storage		0...+40°C / -20...+70°C , rel. humidity max. 80%	
Max temperature combustion air	[°C]	60	60
Minimum gas train pressure (DN80-S-F80 natural gas/ LPG)**	[mbar]	460/177	-/-
Minimum gas train pressure (DN100-S-F100 natural gas/ LPG)**	[mbar]	310/119	370/-
Minimum gas train pressure (DN125-S-F125 natural gas/ LPG)**	[mbar]	225/87	307/-
Minimum gas train pressure (DN150-S-F150 natural gas/ LPG)**	[mbar]	206/79	287/-

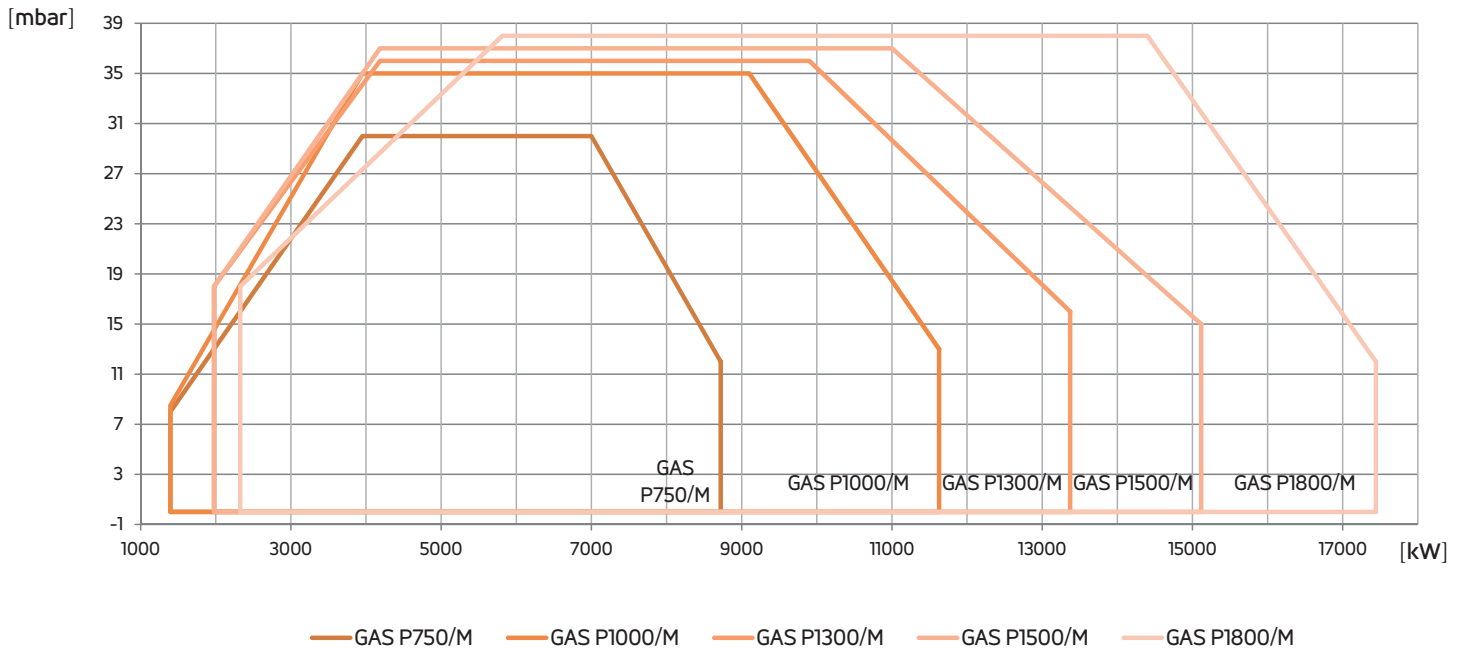
MODEL		GAS P1500/M-EL	GAS P1800/M-EL
Maximum supply gas pressure (Pe.max)	[mbar]	500	500
Nominal electric power	[kW]	45.5	55.5
Fan motor	[kW]	45	55
Nominal absorption current (powers)	[A]	78	96
Nominal absorption current (auxiliary)	[A]	0.4	0.4
Power supply		3~400V-1/N~230V-50Hz	
Electric protection degree		IP40	IP40
Sound level*** min-max	[dB(A)]	87-93	88-94
Burner weight	[kg]	660	870

\* 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 1m of distance (UNI EN ISO 3746).

## FIRING RATES



**Fig. 1** X = Thermal power Y = Pression in the combustion

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 bruciatore, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

DIMENSIONS [mm]

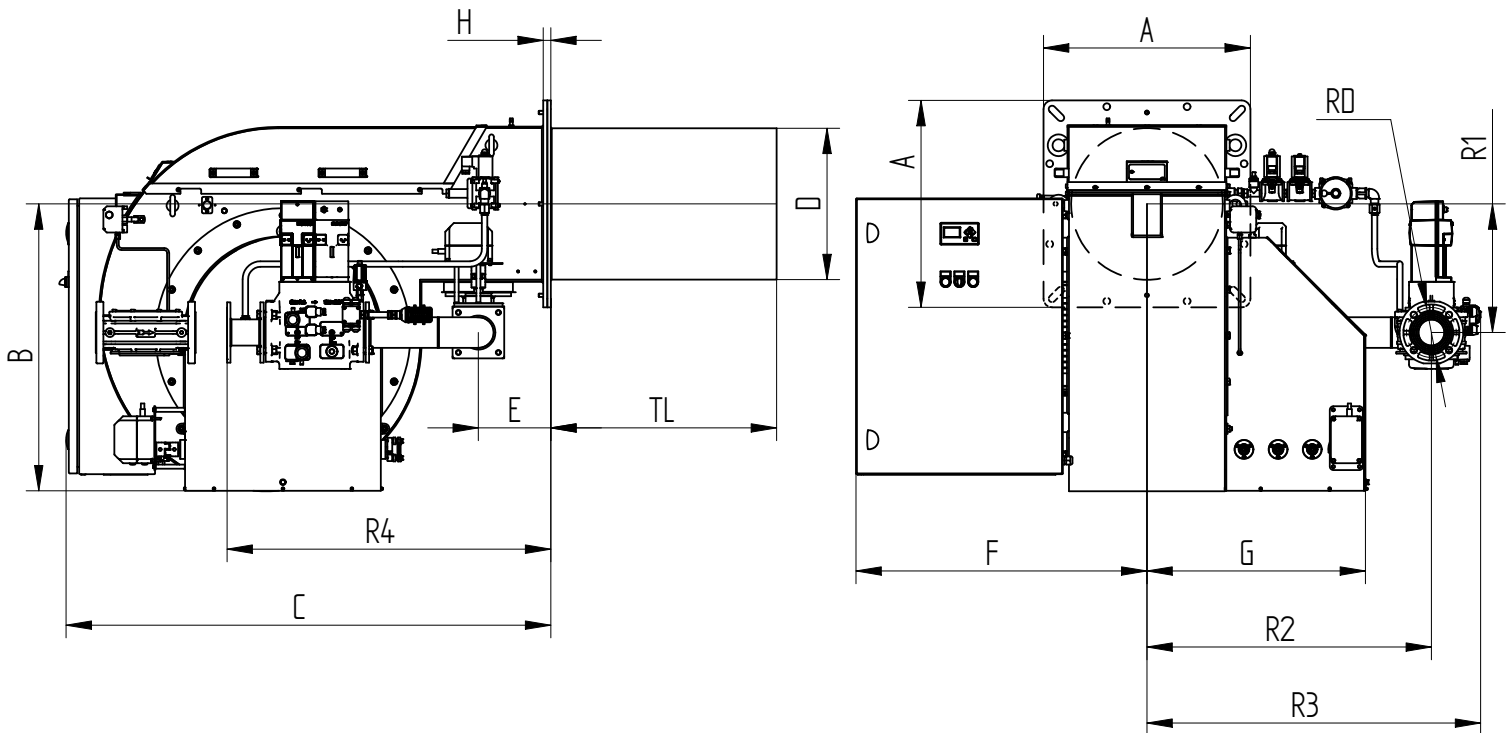
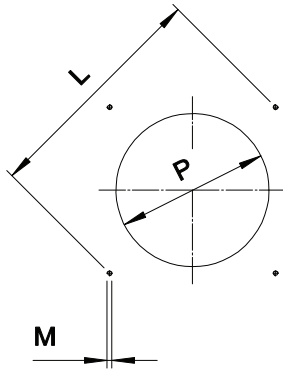


Fig. 2 GAS P750/MCE-EL - GAS P1000/MCE-EL - GAS P1300/MCE-EL - GAS P1500/MCE-EL - GAS P1800/MCE-EL

MODEL	A	B	C	D	E	F	G	H	R1	R2	R3	R4	RD	Gas train weight
GAS P750/MCE-EL DN65	600	832	1431	439	210	845	660	22	373	825	968	940	DN65	22 kg
GAS P750/MCE-EL DN80	600	832	1431	439	210	845	660	22	373	825	1015	960	DN80	24 kg
GAS P750/MCE-EL DN100	600	832	1431	439	210	845	660	22	373	825	1080	1000	DN100	27 kg
GAS P750/MCE-EL DN125	600	832	1431	439	210	845	660	22	373	825	1080	1050	DN125	32 kg
GAS P1000/MCE-EL DN80	600	832	1431	459	210	845	660	22	373	825	1015	960	DN80	24 kg
GAS P1000/MCE-EL DN100	600	832	1431	459	210	845	660	22	373	825	1080	1000	DN100	27 kg
GAS P1000/MCE-EL DN125	600	832	1431	459	210	845	660	22	373	825	1080	1050	DN125	32 kg
GAS P1300/MCE-EL DN80	600	832	1431	499	210	845	660	22	373	825	1015	960	DN80	24 kg
GAS P1300/MCE-EL DN100	600	832	1431	499	210	845	660	22	373	825	1080	1000	DN100	27 kg
GAS P1300/MCE-EL DN125	600	832	1431	499	210	845	660	22	373	825	1080	1050	DN125	32 kg
GAS P1500/MCE-EL DN80	600	832	1431	499	210	845	660	22	373	825	1015	960	DN80	24 kg
GAS P1500/MCE-EL DN100	600	832	1431	499	210	845	660	22	373	825	1080	1000	DN100	27 kg
GAS P1500/MCE-EL DN125	600	832	1431	499	210	845	660	22	373	825	1080	1050	DN125	32 kg
GAS P1800/MCE-EL DN100	700	937	1578	540	222	900	660	22	441	1024	1204	900	DN100	27 kg

**BOILER PLATE**



\* Suggested dimension of connection between burner and generator.

**Fig. 3** Boiler plate

MODEL		L min	L *	L max	M	P min	P max
GAS P750/MCE-EL	mm	707	778	778	M16	460	540
GAS P1000/MCE-EL	mm	707	778	778	M16	480	540
GAS P1300/MCE-EL	mm	707	778	778	M16	510	540
GAS P1500/MCE-EL	mm	707	778	778	M16	510	540
GAS P1800/MCE-EL	mm	806	890	890	M18	550	580

**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.

MODEL		TL **
GAS P750/MCE-EL	mm	655
GAS P1000/MCE-EL	mm	655
GAS P1300/MCE-EL	mm	655
GAS P1500/MCE-EL	mm	655
GAS P1800/MCE-EL	mm	685

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

**PRODUCT SPECIFICATION****SHORT DESCRIPTION**

Burners for gas two stages progressive or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe.

**DETAILED SPECIFICATION**

Burner for gas two stages progressive or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe; composed by:

- burner frame made of steel completed by specific boiler plate
- combustion head with adjustment at high efficiency and high flame stability equipped with blast tube made of stainless steel and flame stability disk made of steel
- safety air pressure switch -air side- that stops the burner in case of failed or irregular fan operation
- spherical gas valve servo-controlled; progressive start and free way passage with total opening
- one servomotor for air flaps and one 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
- high performance centrifugal fan with backward curved blades for low noise
- Gas train completely assembled and tested; complete of: working valve class A - safety valve class A - minimum gas pressure switch - gas valve proving pressure switch - filter
- valve proving system
- Three-phase power supply
- UV probe for flame detection
- Maximum gas pressure switch to stop the burner in lock-out in case of the gas pressure is higher than the set point value
- Pilot ignition
- 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 minimum and the maximum value based on instantaneous loading request

**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.;
- Reference rules: EN676 (gas) - EN746-2 (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 O<sub>2</sub> control (is suggest to add the VSD);
- Sensors and system for CO control (is suggest to add the VSD);
- Sensors and system for O<sub>2</sub>-CO control (is suggest to add the VSD);
- Modules for field BUS (modbus - profibus - profinet);
- Noise protection;
- Antivibration couplings;
- Handle gas taps.