

## GAS P100/MCE-LX - GAS P150/MCE-LX

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

They are composed by: die-cast aluminum body, fan at high pressurisation and combustion head with adjustment at high efficiency and high flame stability.

Compact overall dimensions and disposition rationalized of the components with accessibility facilitated for the operations of setting and maintenance.

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

Complete of flange and gasket for installation on generator.



Fig. 1 GAS P100/MCE-LX

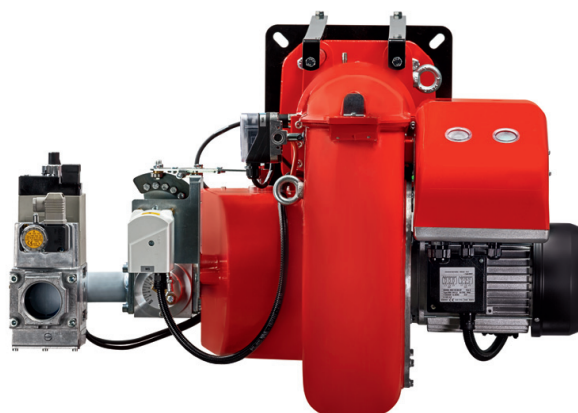


Fig. 2 GAS P100/MCE-LX

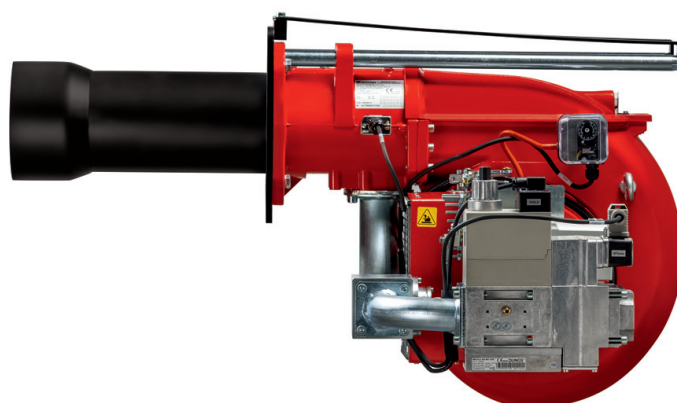


Fig. 3 GAS P100/MCE-LX

## TECHNICAL DATA GAS P100/MCE-LX - GAS P150/MCE-LX

MODEL		GAS P100/MCE-LX	GAS P150/MCE-LX
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	133/400-851	230/700-1300
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	155/465-990	267/814-1511
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	15.5/46.7-99.4	26.8/82-152
Fuel: NATURAL GAS (second family)			
Fuel category:	I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL,I2E(R)B		
NOx **	[mg/kWh]	< 80: class 3 (EN 676)	
Intermittent working operation (min. 1 stop every 24 hours) two stages progressive or modulating			
Environmental conditions operation / storage:	-15...+40°C / -20...+70°C, rel. humidity max. 80%		
Max. temperature combustion air	[°C]	60	60
Min. pressure gas train D1"1/2 - S NATURAL GAS ***	[mbar]	41	-
Min. pressure gas train D2" - S NATURAL GAS ***	[mbar]	36	56
Min. pressure gas train DN65-FS65 NATURAL GAS ***	[mbar]	27	40
Min. pressure gas train DN80-FS80 NATURAL GAS ***	[mbar]	25	32
Max. pressure at the entry of valves (Pe. max)	[mbar]	360	360
Nominal electric power	[kW]	2.7	3.4
Fan motor	[kW]	2.2	3
Nominal motor current absorption	[A]	5.4	6.4
Nominal auxiliary absorption	[A]	0.5	0.6
Power supply:	3~400V, 1N~230V - 50Hz		
Electric protection degree:		IP 40	IP 40
Noisiness **** min. - max.	[dB(A)]	81-82	83-84
Burner weight *****	[kg]	71	87

\* Conditions of reference: Environment temperature 20°C - barometric pressure 1013 mbars - Altitude 0 m o.s.l.

\*\* To obtain this low Nox emission like in the declaration, it's necessary to couple the burner to the proper boiler for this application: boilers with 3 turns for the exhaust gas, condensing boilers and any generator with direct exhaust outlet and the thermal load isn't higher then 1,1 MW/m³.

\*\*\* Pressure of feeding of the gas to the ramp to get the maximum power of the burner considering against pressure in chamber of value combustion 0 (zero).

\*\*\*\* Measured sonorous pressure in the combustion laboratory , with functional burner on beta boiler to 1m of distance. (UNI EN ISO 3746).

\*\*\*\*\* For burner with long head, add 3 kg to the weight.

## OPERATING RANGE DIAGRAM

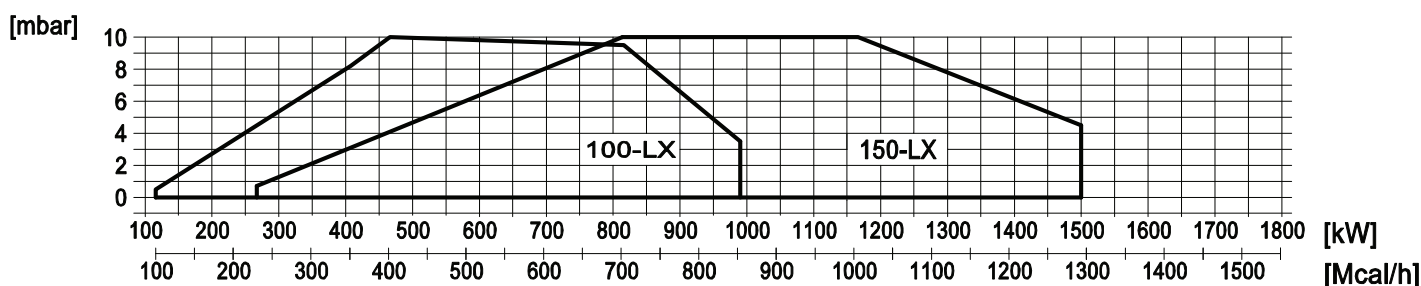
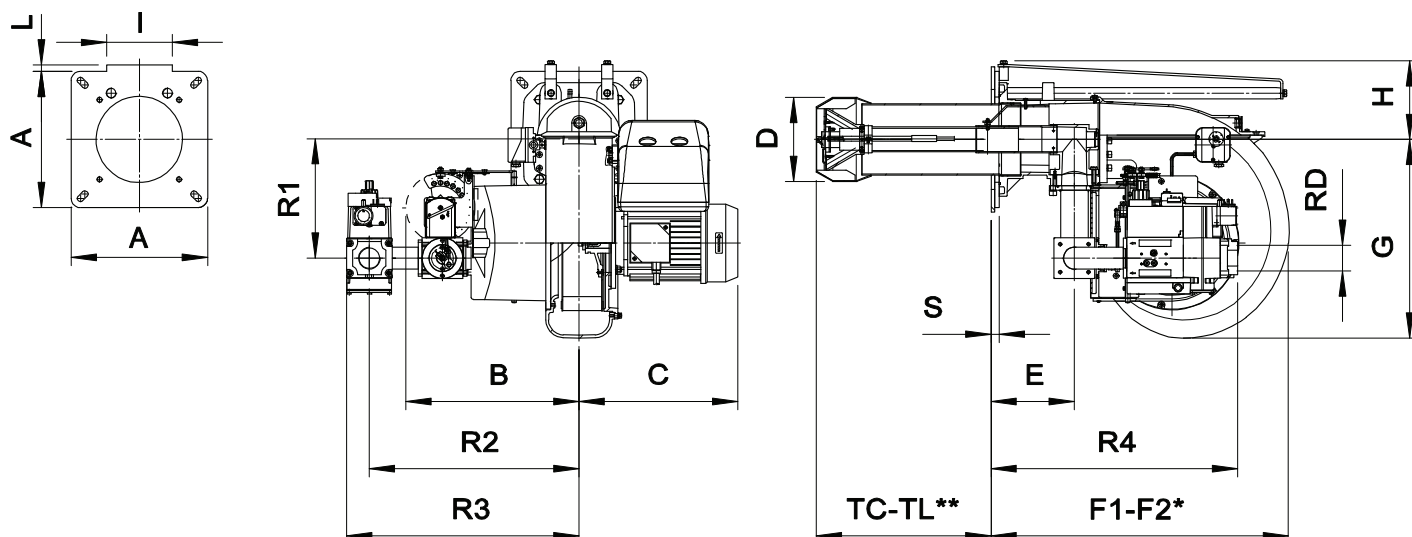


Fig. 4 X = Thermal power Y = Pression in the combustion chamber

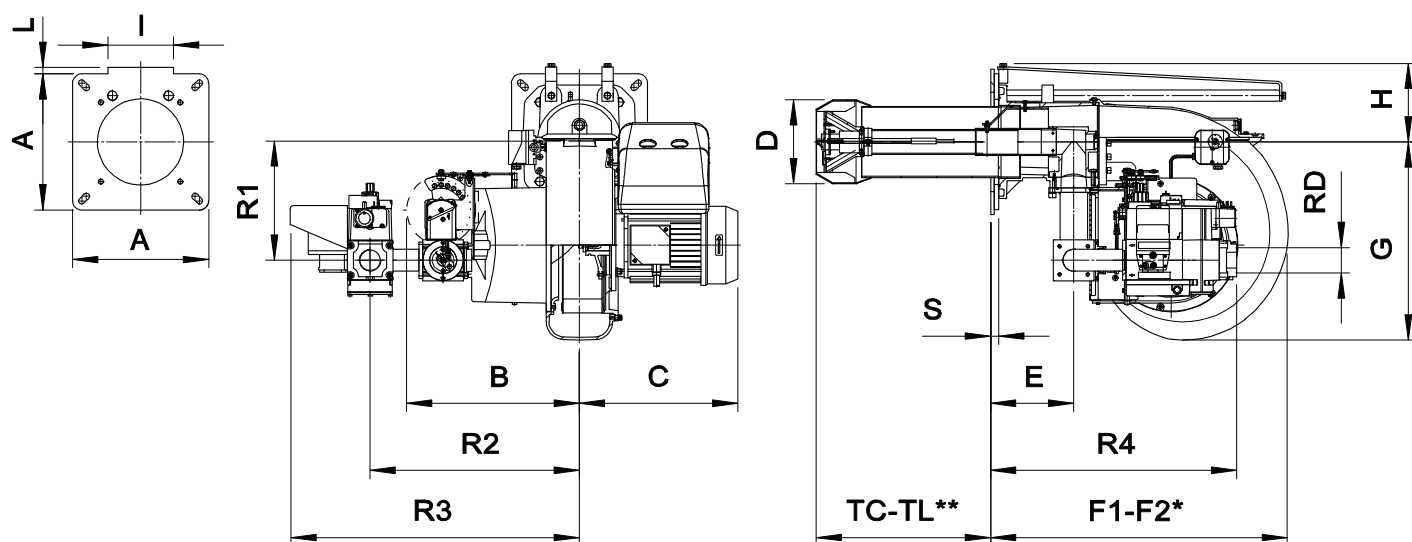
The firing rates has been obtained based on test boilers in accordance with EN267 standards and are indicative of matching the burner to the boiler. For the correct operation of the burner, combustion chamber dimensions must be in accordance with current regulation. In case of non-compliance, contact the manufacturer.

**FBR****DIMENSIONS [MM]****GAS BURNERS LOW NOX TWO STAGES PROGRESSIVE  
OR MODULATING**

SK073040\_B\_en

**Fig. 5 GAS P100/MCE-LX**

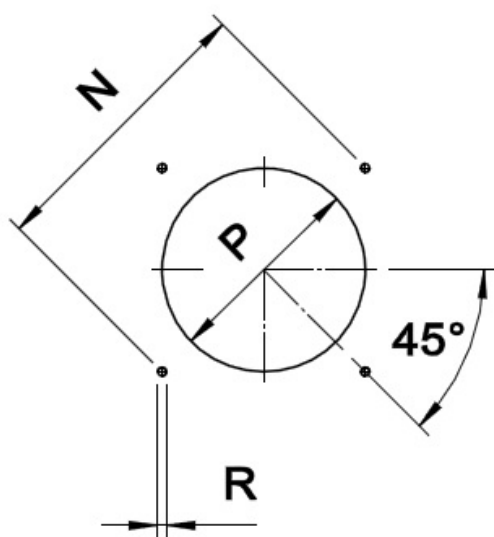
MODEL	A	B	C	D	E	F1	F2	G	H	I	L	S	R1	R2	R3	R4	RD
<b>GAS P100/MCE-LX - D1"1/2 - S</b>	300	382	350	185	184	660	1160	438	173	0	0	18	260	460	512	544	Rp1 1/2
<b>GAS P100/MCE-LX - D2" - S</b>	300	382	350	185	184	660	1160	438	173	0	0	18	260	460	512	544	Rp 2
<b>GAS P100/MCE-LX - DN65-FS65</b>	300	382	350	185	184	660	1160	438	173	0	0	18	260	500	592	580	DN65
<b>GAS P100/MCE-LX - DN80-FS80</b>	300	382	350	185	184	660	1160	438	173	0	0	18	260	540	633	620	DN80

**Fig. 6 GAS P150/MCE-LX**

MODEL	A	B	C	D	E	F1	F2	G	H	I	L	S	R1	R2	R3	R4	RD
<b>GAS P150/MCE-LX - D2" - S</b>	320	382	376	240	193	800	1380	438	213	213	40	23	228	510	685	540	Rp 2
<b>GAS P150/MCE-LX - DN65-FS65</b>	320	382	376	240	193	800	1380	438	213	213	40	23	228	510	688	590	DN65
<b>GAS P150/MCE-LX - DN80-FS80</b>	320	382	376	240	193	800	1380	438	213	213	40	23	228	550	741	630	DN80

\*F2: Overall dimension with the burner out in position of maintenance.

\*\*TC-TL: see "flame tube length"



**Fig. 7** Boiler plate

MODEL		P min	P max	M	N min	N max
GAS P100/MCE-LX	mm	195	250	M12	340	368
GAS P150/MCE-LX	mm	250	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.

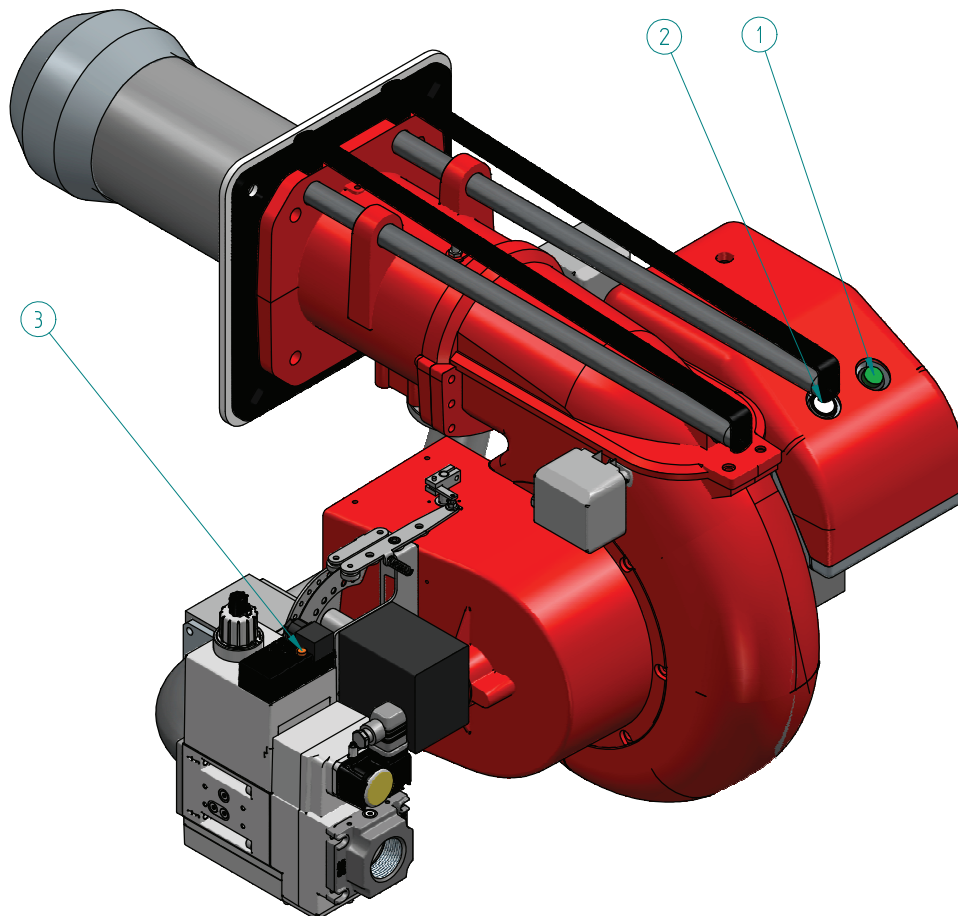
In case of boilers with flame inversion or front flue combustion chambers, it is necessary to insulate the area between the flame tube and front door with refractory material. This protection material must not impede flame tube extraction.

MODEL		TC	TL **
GAS P100/MCE-LX	mm	250	385
GAS P150/MCE-LX	mm	280	400

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

## BURNER SIGNAL DESCRIPTION

In the picture below there are indicated all the signalation present on the burner:




**Fig. 8** Burner signal description


### LEGEND

- 1) ON/OFF button
- 2) Reset from lockout button + status lamp
- 3) GAS valve lamp \*


\* In the gas train DN65-FS65 and DN80-FS80 there are 2 lamps.

 The multicolor signal lamp in the lockout reset button (pos.2) is the key indicating element for visual diagnostics and interface diagnostics.

In normal operation, the different operating states are indicated in the form of color codes; please refer to electrical device handbook supplied with the present instructions.

 After a non-alterable lockout, the red signal lamp in the lockout reset button (pos.2) lights up. By pressing the lockout reset button (pos.2) for more than 3 seconds, the visual diagnostics of the cause of fault can be activated; please refer to electrical device handbook supplied with the present instructions.

For close the diagnostics mode and for switch on the burner again, it is necessary to reset the burner control. Press the lockout reset button (pos.2) for about 1 second (<3 seconds).

 After a non-alterable lockout, the red signal lamp in the lockout reset button (pos.2) lights up. For reset the control box press the lockout reset button (pos.2) for about 1 second (<3 seconds).

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

Burners for gas two stages progressive (hi-low flame) or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe low emissions certified in conformity with CE 676 class 3 (NO<sub>x</sub> < 80 mg/kWh).

**DETAILED SPECIFICATION**

Burner for gas two stages progressive (hi-low flame) or modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe low emissions certified in conformity with CE 676 class 3 (NO<sub>x</sub> < 80 mg/kWh); composed by:

- Die-cast aluminum body;
- Fan at high pressurisation;
- Combustion head with adjustment at high performance and elevated flame stability equipped with inox steel blast tube and steel flame disc;
- Flange and insulating gasket for fixing at boiler;
- Three-phase power supply;
- 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 and valve proving system as standard for model: GAS P150/MCE-LX;
- UV probe for flame detection;
- IP 40 electric protection level;
- Spherical gas valve servo-controlled; progressive start and free way passage with total opening;
- Servomotor for air shutter and for the spherical gas valve;
- Moving shutter with total closure when idle in order to reduce at the least energy losses related to boiler cooling down;
- Supports and tierods for burner extraction;
- 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.

**CONFORMING TO:**

- CE rules;
- 2014/30/UE Directive E.M.C.;
- 2014/35/UE Directive L.V.;
- 2014/68/EU Directive M.D.;
- 97/23/CE Directive P.E.D.;
- 2009/142/CE Directive GAS;
- 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;
- Temperature probe 0°C-400°C (PT 100 a 0° C);
- 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;
- Noise protection;
- Antivibration couplings;
- Handle gas taps.