

## GAS P650/MCE

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: fan at high pressurisation and combustion head with adjustment at high efficiency and high flame stability.

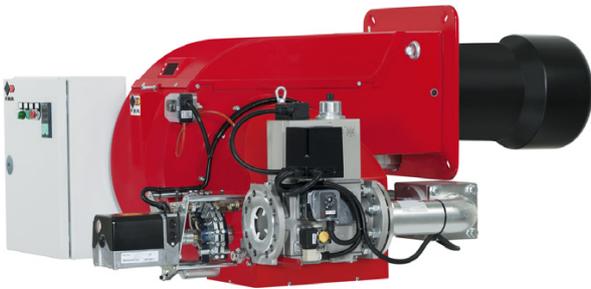
Compact overall dimensions and disposition rationalized of the components with accessibility facilitated for the operations of setting and maintenance.

Available in the versions METHANE (natural gas) or L.P.G. (to specify at the order) on demand specific versions for town gas, coal gas or biogas.

Gas train completely assembled and tested; complete of: working valve class A - safety valve class A - gas valve proving system - minimum gas pressure switch and gas filter.

Complete of flange and gasket for installation on generator.

Available with mechanical cam or with electronic cam.



## TECHNICAL DATA GAS P650/MCE

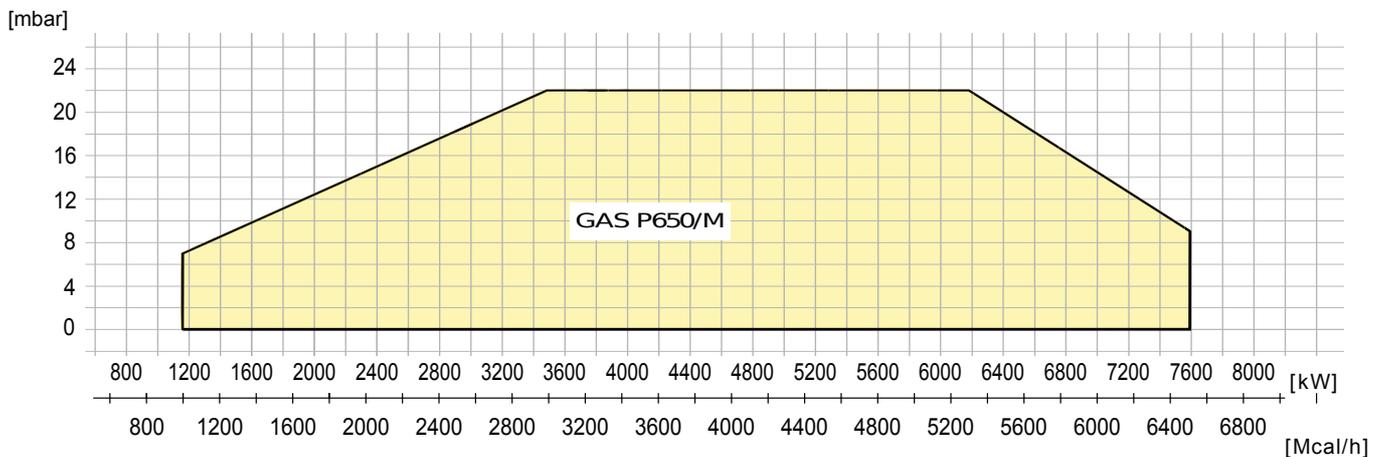
MODEL	GAS P650/MCE	
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[Mcal/h]	1000/3000-6500
Thermal power min. 1°st. / min. 2°st. - max. 2°st. *	[kW]	1163/3488-7558
Gas flow G20 (NATURAL GAS) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	117/351-760
Gas flow G31 (L.P.G.) min. 1°st. / min. 2°st. - max. 2°st. *	[Nm³/h]	45/136-294
Fuel: NATURAL GAS (second family) - L.P.G. (third family)		
Fuel category:	I2R,I2H,I2L,I2E,I2E+,I2Er,I2ELL, I2E(R)B/I3B/P,I3+,I3P,I3B,I3R	
Intermitted 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
Minimum pressure gas train DN65 FS65 NATURAL GAS/L.P.G. **	[mbar]	260/189
Minimum pressure gas train DN80 FS80 NATURAL GAS/L.P.G. **	[mbar]	233/121
Minimum pressure gas train DN100 FS100 NATURAL GAS/L.P.G. **	[mbar]	118/76
Maximum pressure at the entry of valves (Pe. max)	[mbar]	500
Nominal electric power	[kW]	22.5
Fan motor	[kW]	22
Nominal motor current absorption	[A]	43
Nominal auxiliary absorption	[A]	0.6
Power supply:	3~400V, 1N~230V - 50Hz	
Electric protection degree NATURAL GAS/L.P.G.:	IP54/IP40	
Noisiness *** min. - max.	[dB(A)]	88-92
Burner weight	[kg]	315

\* 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).

## OPERATING RANGE DIAGRAM GAS P650/MCE



**Fig. 1** 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.

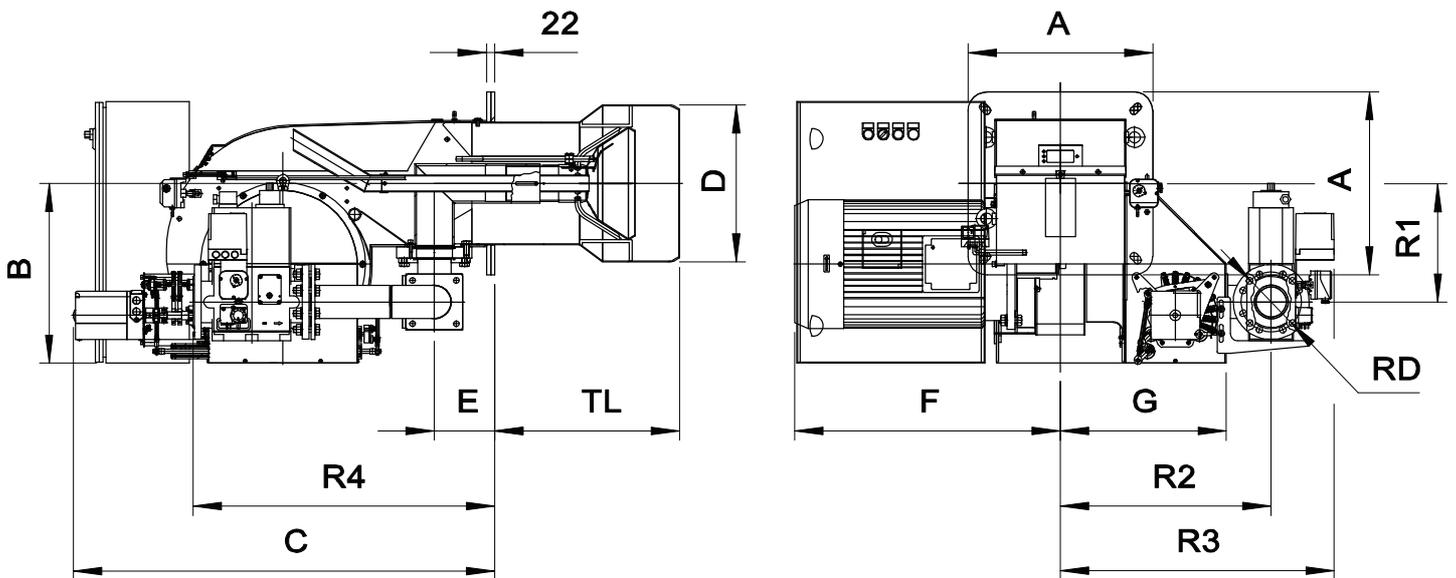
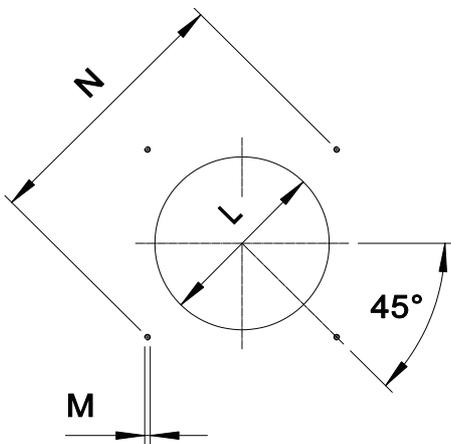


Fig. 2 Dimensions GAS P650/MCE

MODEL	A	B	C	D	E	F	G	R1	R2	R3	R4	RD	Gas train weight
GAS P650/MCE - DN65 FS65	490	481	1118	420	160	705	440	317	560	714	780	DN65	37 kg
GAS P650/MCE - DN80 FS80	490	481	1118	420	160	705	440	317	560	727	800	DN80	47 kg
GAS P650/MCE - DN100 FS100	490	481	1118	420	160	705	440	317	590	765	840	DN100	57 kg

**BOILER PLATE**



\* Suggested dimension of connection between burner and generator.

Fig. 3 Boiler plate

MODEL		L min	L *	L max	M	N min	N *	N max
GAS P650/MCE	mm	430	440	450	M14	552	552	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 P650/MCE	mm	490

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

**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.

**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; composed by:

- Fan at high pressurisation;
- Combustion head with adjustment at high performance and elevated flame stability equipped with 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;
- Ionisation probe for flame detection for natural gas versions;
- UV probe for flame detection for L.P.G. versions;
- IP 54 electric protection level for natural gas versions;
- IP 40 electric protection level for L.P.G. versions;
- 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;
- 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;
- Fan motor start-up with star/delta system;
- 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.