

## **FGP 750/M-EL - FGP 1000/M-EL - FGP 1300/M-EL - FGP 1500/M-EL - FGP 1800/M-EL**

Burners for light-oil 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.

The adoption of strong metal components make the burner durable also in heavy duty conditions.

Complete of nozzle, flexible pipes and line filter.

Complete of flange and gasket for installation on generator.

The actuators are independent and are managed directly by the electronic cam:

- one actuator for the air shutter
- one actuator for the light-oil modulator

The burners are equipped with an electronic microprocessor system, in addition there is a LCD display with interactive configuration.

With the addition of optional accessories (probes) thanks to the most advanced systems for automatic modulation, the burner constantly ensures the proper fuel / 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.

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 these sequences of operation.

Some accessories are available, like: PC interface, VSD (inverter), Profibus, Modbus.

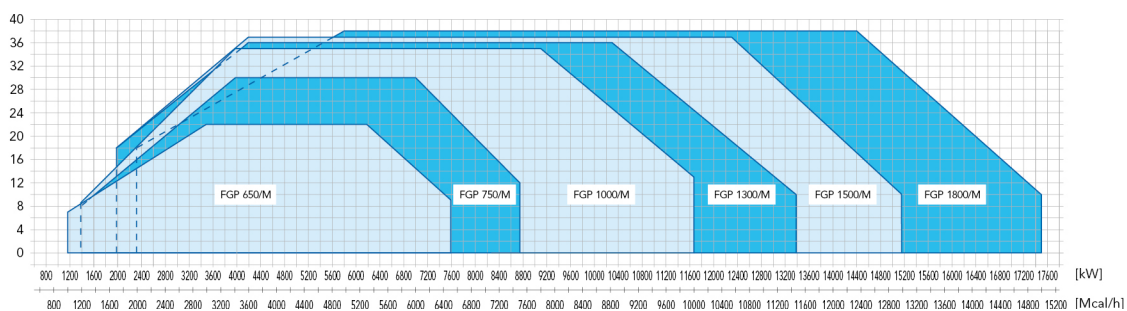
## TECHNICAL DATA

MODEL		FGP 750/M-EL	FGP 1000/M-EL	FGP 1300/M-EL	FGP 1500/M-EL	FGP 1800/M-EL
Thermal power min.1°st. / min.2°st. - max.2°st. *	[Mcal/h]	968/3400-7500	968/3400-10000	998/3600-11500	998/3600-13000	1416/5000-15000
Thermal power min.1°st. / min.2°st. - max.2°st. *	[kW]	1125/3953-8721	1125/3953-11628	1160/4186-13372	1160/4186-15116	1647/5814-17442
Light-oil flow min.1°st. / min.2°st. - max.2°st. *	[kg/h]	97/333-735	97/333-980	100/353-1127	100/353-1274	142/490-1471
Fuel: Light-oil 1.5°E at 20°C = 6.2 cSt = 35 sec Redwood N°1						
Intermittent 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	60	60	60	60
Nominal electric power	[kW]	27	35	41.5	49.5	61
Fan motor	[kW]	22	30	37	45	55
Pump motor	[kW]	3	4	4	4	5.5
Fan motor absorption	[A]	43	55.5	64.2	77.6	94
Pump motor absorption	[A]	6.7	8.6	8.6	8.6	11.7
Power supply		3~400V - 1/N~230V-50Hz				
Degree of electric protection		IP40				
Noisiness ** max.	[dB(A)]	84-88	86-92	90-93	92-95	94-98

\* Reference conditions: Environment temperature 20°C - Barometric pressure 1013 mbars - Altitude 0 metre (sea level)

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

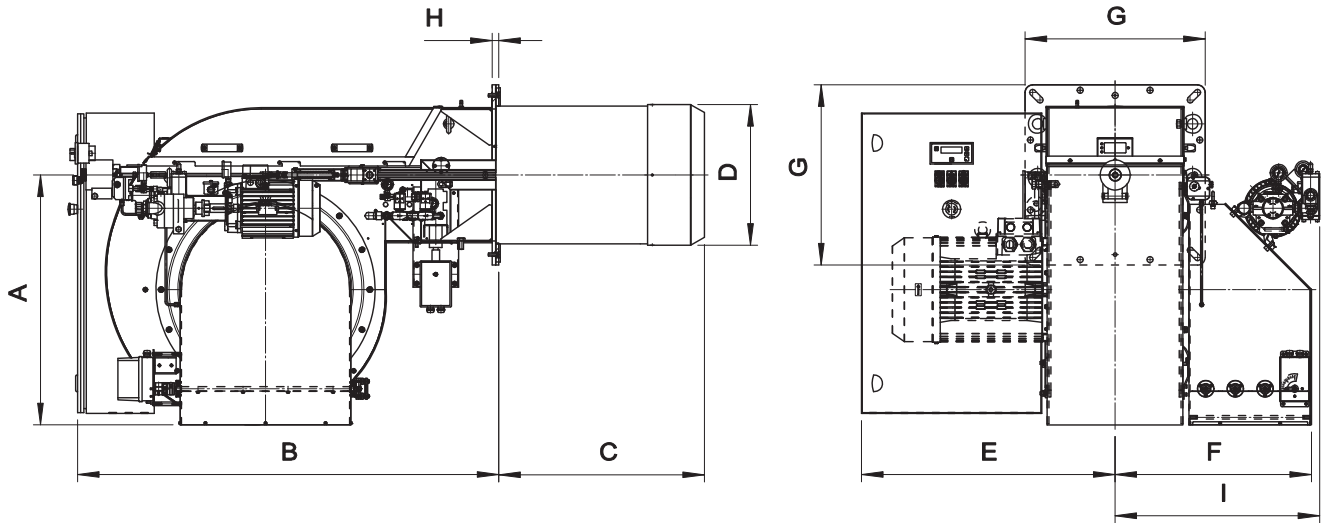
## OPERATING RANGE DIAGRAM



**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.

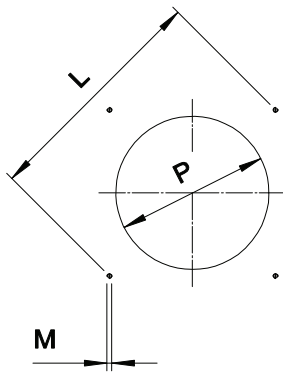
**BURNER DIMENSIONS [MM]**



**Fig. 2** Burner dimensions

MODEL	A	B	C	D	E	F	G	H	I
FGP 750/M-EL	832	1403	685	448	845	654	600	22	674
FGP 1000/M-EL	832	1403	685	468	845	654	600	22	674
FGP 1300/M-EL	832	1403	655	500	845	654	600	22	674
FGP 1500/M-EL	832	1403	655	500	845	654	600	22	674
FGP 1800/M-EL	945	1550	685	540	880	664	700	22	664

**BOILER PLATE**



The dimensions of the boiler plate (threaded holes or studs) must be as indicated in the drawing.

**Fig. 3** Boiler plate

MODEL		M	L min	L* max	P min	P max
FGP 750/M-EL	mm	M16	707	778	460	540
FGP 1000/M-EL	mm	M16	707	778	480	540
FGP 1300/M-EL	mm	M16	707	778	520	540
FGP 1500/M-EL	mm	M16	707	778	520	540
FGP 1800/M-EL	mm	M18	806	890	550	630

\* Suggested dimension.

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

Light-oil burners modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe at electronic cam.

**DETAILED SPECIFICATION**

Light-oil burner modulating (PID fully modulating) if equipped with addition of optional modulation kit and probe at electronic cam; composed by:

- Frame made of steel;
- Centrifugal fan at high pressurization with reverse curved blades at low noisiness;
- Combustion head with adjustment at high performance and elevated flame stability equipped with inox steel blast tube and steel flame disc;
- Easy extraction of combustion head without get off the burners by bolier;
- Flange and insulating gasket for fixing at boiler/furnace;
- Electronic control box for control and supervision of burner;
- UV scanner for flame detection;
- Three-phase power supply;
- Fan motor start-up made by delta/star system FGP 750/M-EL - FGP 1000/M-EL;
- Fan motor start-up made by soft-starter system FGP 1300/M-EL - FGP 1500/M-EL - FGP 1800/M-EL;
- IP40 electric protection level;
- Safety air pressure switch to stop the burner in case of failed or anomalous fan operation;
- One servomotor for air shutter;
- One servomotor for the fuel pressure regulator;
- Mobile shutter with total closure when idle for minimize the energetic losses related at boiler cooling;
- Light-oil gear pump operated by specific electric motor;
- Nozzle assembly with magnet to control inlet/return needle nozzle;
- Maximum light-oil pressure switch to stop the burner in case of the light-oil pressure on the return is higher then the set point value;
- LCD display with interactive configuration;
- Dry contacts for remote signals: burner on, burner in lock-out;
- 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 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.;
- Reference rules: EN267 (liquid fuel) - EN746-2 (industrial thermoprocessing equipment).

**STANDARD EQUIPMENT**

- Flexible hoses for connection;
- Line filter;
- Isomart gasket;
- Nozzle;
- 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;
- Minimum light-oil pressure switch.

The illustrations and data here shown are indicative. F.B.R. Bruciatori S.r.l. reserves the right to bring, without any obligation of warning, any changes that would be appropriate to the continuing development of their products.