

G6 - G10 - G18

24 Vdc voltage supplied single stage burners

MANUAL OF INSTALLATION - USE - MAINTENANCE

***CIB* UNIGAS**

BURNERS - BRUCIATORI - BRULERS - BRENNER - QUEMADORES - ГОРЕЛКИ

GENERAL FEATURES

This series represents monobloc gas burners made in die-cast aluminium housing, the combustion head position can be adjustable which allows a good performance.

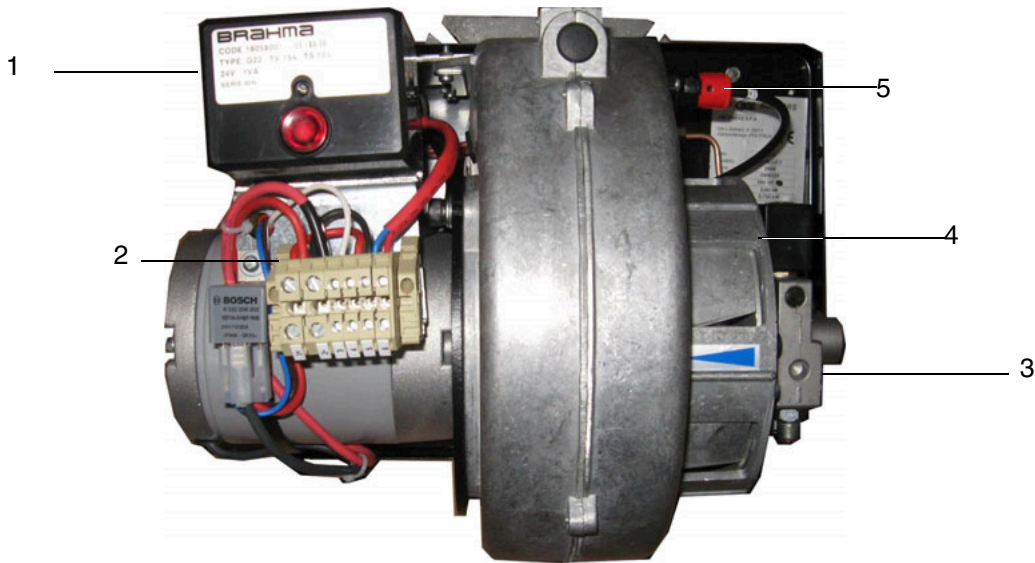


Fig. 1

- 1 Gas valve group
- 2 Blast tube-Combustion head ass.y
- 3 Burner flange
- 4 Burner cover

The fuel coming from the supply line, is pushed by the pump to the nozzle and then into the combustion chamber, where the mixture between fuel and air takes place and consequently the flame.

In the burners, the mixture between fuel and air, to perform clean and efficient combustion, is activated by atomisation of oil into very small particles. This process is achieved making pressurised oil passing through the nozzle.

The pump main function is to transfer oil from the tank to the nozzle in the desired quantity and pressure. To adjust this pressure, pumps are provided with a pressure regulator (except for some models for which a separate regulating valve is provided). Other pumps are provided with two pressure regulators: one for the high and one for low pressure (in double-stage systems with one nozzle).

The adjustable combustion head can improve the burner performance. The combustion head determines the energetic quality and the geometry of the flame. Fuel and comburent are routed into separated ways as far as the zone of flame generation (combustion chamber).

How to interpret the burner “Performance curve”

To check if the burner is suitable for the boiler to which it must be installed, the following parameters are needed:

- furnace input, in kW or kcal/h (kW = kcal/h / 860);
- backpressure (data are available on the boiler’s ID plate or in the user’s manual).

Example:

Furnace input: 600kW

Backpressure: 4mbar

In the “Performance curve” diagram (Fig. 1), draw a vertical line matching the furnace input value and an horizontal line matching the backpressure value. The burner is suitable if the intersection point A is inside the performance curve.

Burner model identification

Burners are identified by burner type and model. Burner model identification is described as follows.

Type	G10	Model	G-	TN.	S.	*	Y.
(1)	(1)		(2)	(3)	(4)	(5)	(6)
(1) BURNER TYPE	G6 - G10 - G18						
(2) FUEL	G - Light oil						
(3) OPERATION	TN - Single stage						
(4) BLAST TUBE/BLAST TUBE	S - Standard L - Extended						
(5) DESTINATION COUNTRY	* - see data plate						
(6) BURNER VERSION	Y - Special version (24Vdc power supply)						

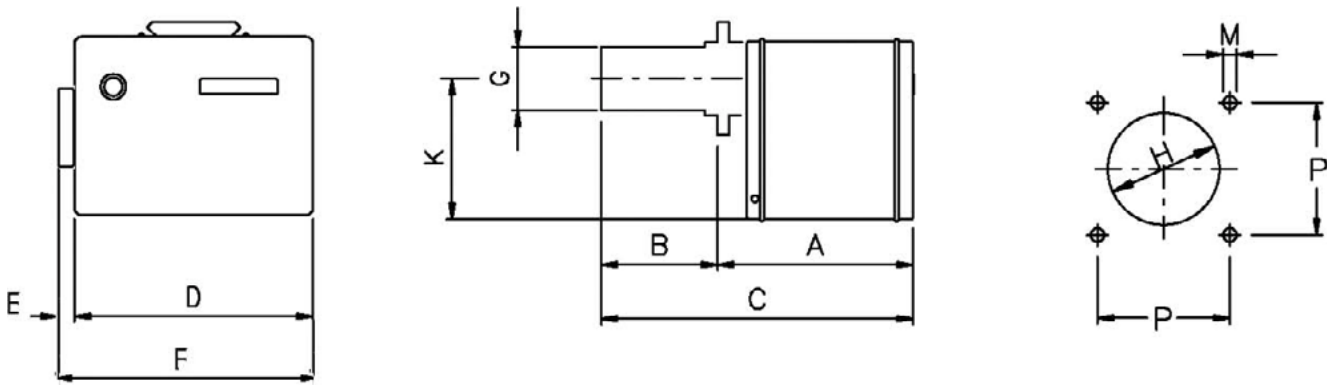
Specifications

BURNER TYPE		G6	G10	G18
Output	min. -max. kW	29 - 70	58 - 116	105 - 209
Fuel		Light oil		
Light oil rate	min. - max. kg/h	2.5 - 6	5 - 10	9 - 18
Light oil viscosity	cSt @ 40°C	2 - 7.4		
Light oil density	kg/m ³	0.84		
Power supply		24 Vdc		
Motor/Двигатель	W	110	180	180
Total power consumption	W	210	280	280
(approx.)Weight	kg	15.5	17	18
Operation		Single-stage		
Operating temperature	°C	-10 ÷ +50		
Storage Temperature	°C	-20 ÷ +60		

NOTE: Choosing the nozzle for light oil, consider Hi equal to 10210 kcal/kg.

*** NOTE ON THE WORKING SERVICE:** for safety reasons, one controlled shutdown must take place every 24 hours of continuous working.

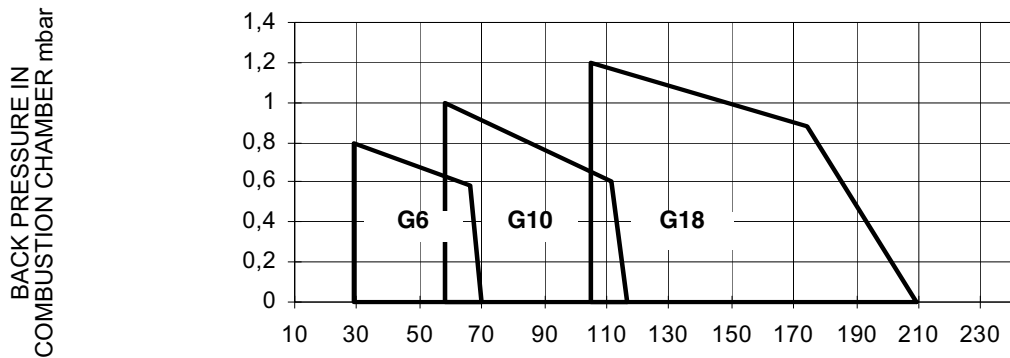
Overall dimensions (mm)



	A	B	B(L*)	C	C(L*)	D	E	F	G	H	K	M	P
G6	290	53 ÷ 67	53 ÷ 177	343 ÷ 357	343 ÷ 467	310	75	385	80	101	190	M8	112
G10	275	86	206	361	481	340	40	380	89	99	230	M8	132
G18	275	87	207	362	482	340	40	380	114	134	230	M8	132

*L = measure referred to burner provided with extended blast tube

Performance Curves



kW

To get the input in kcal/h, multiply value in kW by 860.

Data are referred to standard conditions: atmospheric pressure at 1013mbar, ambient temperature at 15°C

NOTE: The performance curve is a diagram that represents the burner performance in the type approval phase or in the laboratory tests, but does not represent the regulation range of the machine. On this diagram the maximum output point is usually reached by adjusting the combustion head to its "MAX" position (see paragraph "Adjusting the combustion head"); the minimum output point is reached setting the combustion head to its "MIN" position. During the first ignition, the combustion head is set in order to find a compromise between the burner output and the generator specifications, that is why the minimum output may be different from the Performance curve minimum.

MOUNTINGS AND CONNECTIONS

Packing

Burners are despatched in cardboard packages whose dimensions are (mm):

340mm x 415mm x 415mm

Packing cases of this kind are affected by humidity and are not suitable for stacking. The following are placed in each packing case:

- burner with gas train detached;
- gasket to be inserted between the burner and the boiler;
- oil flexible hoses;
- oil filter;
- envelope containing this manual

To get rid of the burner's packing, follow the procedures laid down by current laws on disposal of materials

Fitting the burner to the boiler

To install the burner into the boiler, proceed as follows:

- 1 make a hole on the closing door of the combustion chamber as described on paragraph "Overall dimensions")
- 2 place the burner to the boiler: lift it up and handle it according to the procedure described on paragraph "Handling the burner";
- 3 place the 4 stud bolts (5) on boiler's door, according to the burner drilling template described on paragraph "Overall dimensions";
- 4 fasten the 4 stud bolts;
- 5 place the gasket on the burner flange;
- 6 install the burner into the boiler, moving the blast tube inwards the flange, until it reaches the measure requested by the boiler/utilisation;
- 7 fasten the screws;
- 8 fix the burner to the stud bolts, by means of the fixing nuts of the flange.
- 9 after fitting the burner to the boiler, ensure that the gap between the blast tube and the refractory lining is sealed with appropriate insulating material (ceramic fibre cord or refractory cement).