

GAS BURNER AGB



Introduction

AGB gas burner is non-industrial equipment intended for domestic heating which provides ignition, combustion and ensures flame protection against extinguish. AGB gas burner is a superior finished product, with one unit design, easy to operate and maintain and with a cost effective performance.

AGB natural draft burner relies on the natural draft in the chimney for air supply by means of fuel gas ejection and on the firebox negative pressure.

The main component parts of the burner are indicated in Figure 1; the small door indicated in Figure 2 is supplied together with the burner and is used to mount the burner on the stove.

The safety and automation elements ensure:

- closing of supply circuit in case of gas supply fail;
- adjustment of intervention temperature within $8^{\circ}\text{C} \div 33^{\circ}\text{C}$
- draft protection (clogged draft) in case of supply fail;
- control of the pressure by means of the regulator comprised in the solenoid.

Operation

Gas enters the inlet (11) and flows to the electrical-magnetic valve (EUROSIT 630 valve).

Gas stream is controlled by a normally closed valve that is actuated by an electromagnet. Open the valve manually by turning the knob (5) to the left to position ★. Then push the knob keeping the knob depressed for ca. 10 seconds. Release the knob and check that the gas reached the pilot burner.

The pilot burner is ignited by depressing and releasing the knob (6) of the piezoelectric igniter. An ignition spark is produced between the ignition electrode (4) and pilot burner (3).

The pilot flame heats the thermocouple (10) generating voltage. The electric circuit closes by means of the control valve electromagnet and keeps the valve open. This allows the gas to flow to the second valve (working valve) that is controlled by a thermostat mounted inside the housing that closes or opens the gas flowing to the burner tube (1). The control temperature of the burner is adjusted by means of the knob (5).

The main burner is automatically stopped when the temperature controlled by the thermostat mounted in the apparatus housing is reached. Although the main burner stops, the pilot flame remains alight. Thus, the main burner starts again after the lower limit adjusted by means of the thermostat is reached.

In case of gas supply failure, the pilot flame becomes extinguished. As a result, the thermocouple does not generate voltage anymore, and the valve closes. The burner starts again only if the starting procedure is repeated. Repeat the ignition cycle after minimum 3 minutes.

The burner is manually stopped by means of the isolation valve upstream from the burner or by turning the knob (5) to right to position “0”.

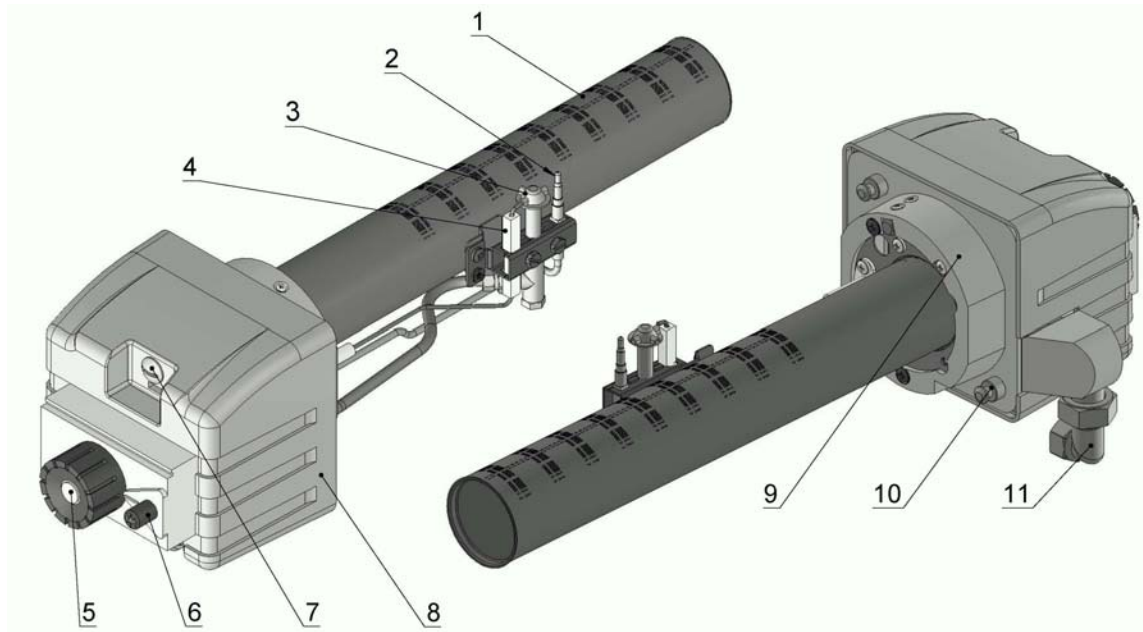


Figure 1 – AGB burner of linear type

1. Stainless steel burner with Venturi tube; 2. Thermocouple;

3. Pilot burner;

4. Ignition electrode; 5. Combined knob for actuating the thermostat and lighting the pilot burner; 6. Piezoelectric igniter; 7. Housing securing nut; 8. Housing; 9. Frame comprising the burner active parts and the automation block; 10. Spacer for door securing; 11. Elbow fitting

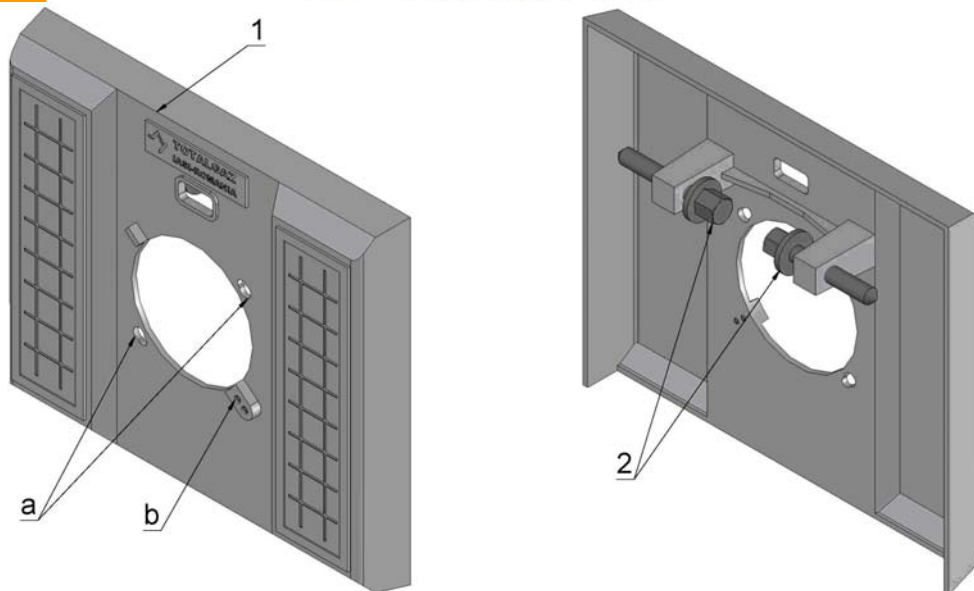


Figure 2 – Small door provided

1. Burner door; 2. Securing screws; a) Spacer securing holes; b) Tapped hole

Technical characteristics

Table 1 indicates the technical characteristics of AGB burner.

Table 1 – Technical characteristics of AGB burners

Overall dimensions [mm]	Height: 151±2	Width: 160±2	Length: 480±2
Fuel/ supply pressure	Natural gas (NG)	20 mbar SR 3317	
	Liquefied petroleum gas (LPG)	30 mbar SR 66	
Apparatus efficiency class	1		
Thermostat limit intervention temperature [°C]	8 ÷ 33		
Weight [kg]	1,2 ± 0,1		
Supply connection	Elbow fitting G3/8		
Firebox: minimum dimensions [mm]	Height: 250	Width: 300	Length: 350
Firebox material	Metallic or ceramic		
Firebox negative pressure	5÷10 mmH ₂ O		

Performance

The construction of the burner ensures:

- Combustion efficiency: minimum 98%
- Excess air coefficient: maximum secured $\alpha=1.35$
- CO₂ generated in the combustion products ($\alpha=1$): < 0,1 %
- Flame maximum width: 65 mm
- Flame maximum height: 75 mm
- Safety time:
 - opening: minimum 10 sec
 - closing: maximum 60 sec

Constructive types

Table 2 – Constructive types of AGB burners

No	Valve type	Power [Kw]	Nominal consumption [Nm ³ /h]	Burner code
1.	630 Eurosit	10	1	AGB1-L
2.	630 Eurosit	16.5	1.65	AGB1.65-L
3.	630 Eurosit	15	1.5	AGB1.5-L-500
4.	630 Eurosit	10	1	AGB1-C

REMARKS:

1. The values in Table 2 have been calculated for the lower calorific values of gas.
2. The nominal flow rate of the fuel is the flow rate at normal operation and maximum opening of the control valve.

The manufacturer reserves the right to make modifications without any prior notification.

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