

# SILICON CARBIDE RADIANT BURNER

## RAD-2 SERIES

### FEATURES

- Burner body: AISI310
- Mixer body: AISI303
- Gas pipe: AISI304
- Nozzle: AISI303
- Flame shield: silicon carbide
- Suitable for different types of gas: CH<sub>4</sub>/L.P./propane/etc.
- Capacity: 25 kW
- Air and gas pressure: 75 mbar
- Wide turndown range
- Low NO<sub>x</sub> level
- Separated air and gas inlets, mixing at discharge point, no flash-back.

### APPLICATIONS

- Glass furnaces

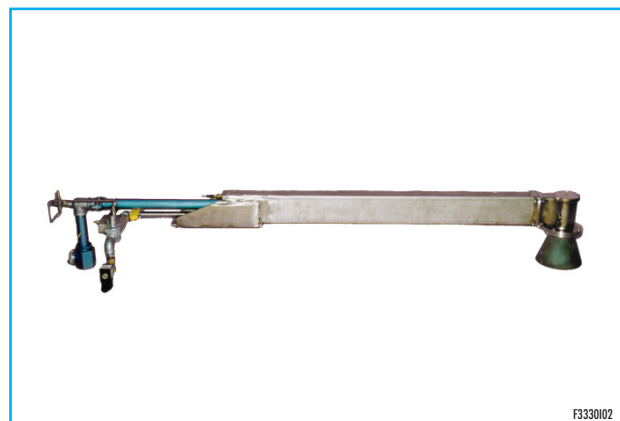
### DESCRIPTION

Radiant energy is well known used in industrial drying processes and treatment of material such as paper, glass and steel or copper strip; besides it is well know that radiant energy has an ideal wave length, in the most of these processes, on infrared range between 2 and 6 microns. These radiations pierce into material to be treat more easily than any other radiation and, in comparison with the ones produced by a trazionale convection system, they are more suitable in processes in which uniformity is required. Standard combustion chamber are lacking in these radiation, so on industrial application metallic shields or made using metal or special refractory material are used; they give out radiation with the required wave length if they are heated to a particular temperature (for metallic shield, 760°C÷870°C). In optimal tempetature condition, about 92% of radiated energy is included in required wave length range.

RAD-2- burner is usually used on glass bending furnaces; the special shape of nozzle and flame shield let hold combustion products near nozzle. This geature is very important for having a good radiative heating. Capacity regulation of this burner is useful not for change temperature in combustion chamber, but for change radiant area.



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## INSTALLATION

RAD-1 burner must be mounted on wall, just under the roof in order to have infrared radiation directed down. For connection of air and gas pipes to burner, we suggest to use flexible pipes that allow bur-

ner to slide according to typical movement required by its application.

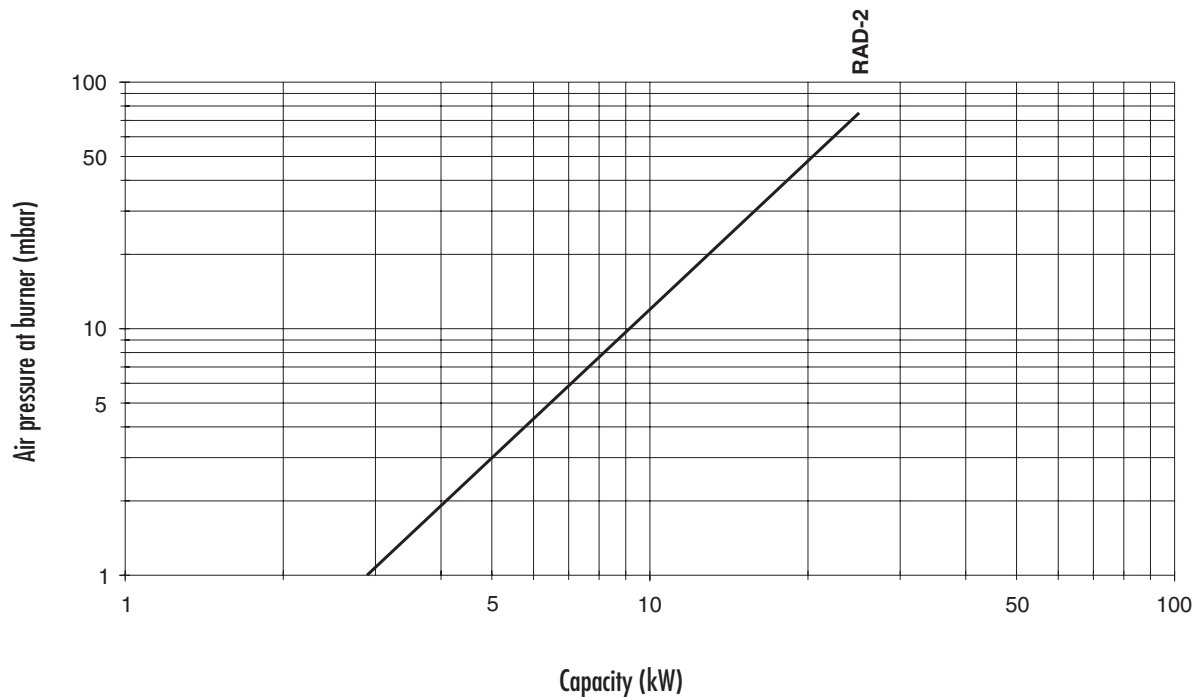
## IGNITION AND FLAME DETECTION

RAD-2 must be ignited at low fire by a Wand electrode (supplied with the burner). Flame detection is made by the same electrode; we sug-

gest installing a flame control device ESA ESTRO and a low impedance transformer (TAR-10).

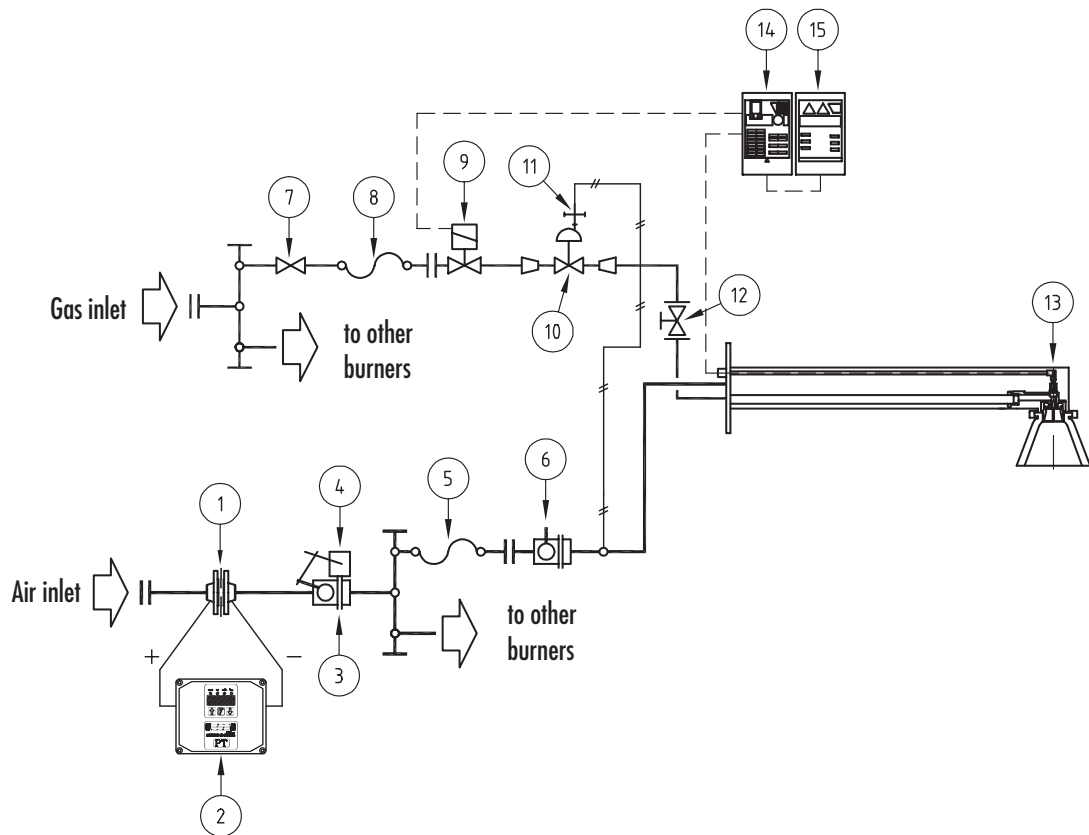
Catalog No.	Pilot burner ignition		Electrode ignition	
	Ignition	Detection	Ignition	Detection
RAD-2	(not available)	(not available)	Wand	Wand

## CAPACITY TABLE



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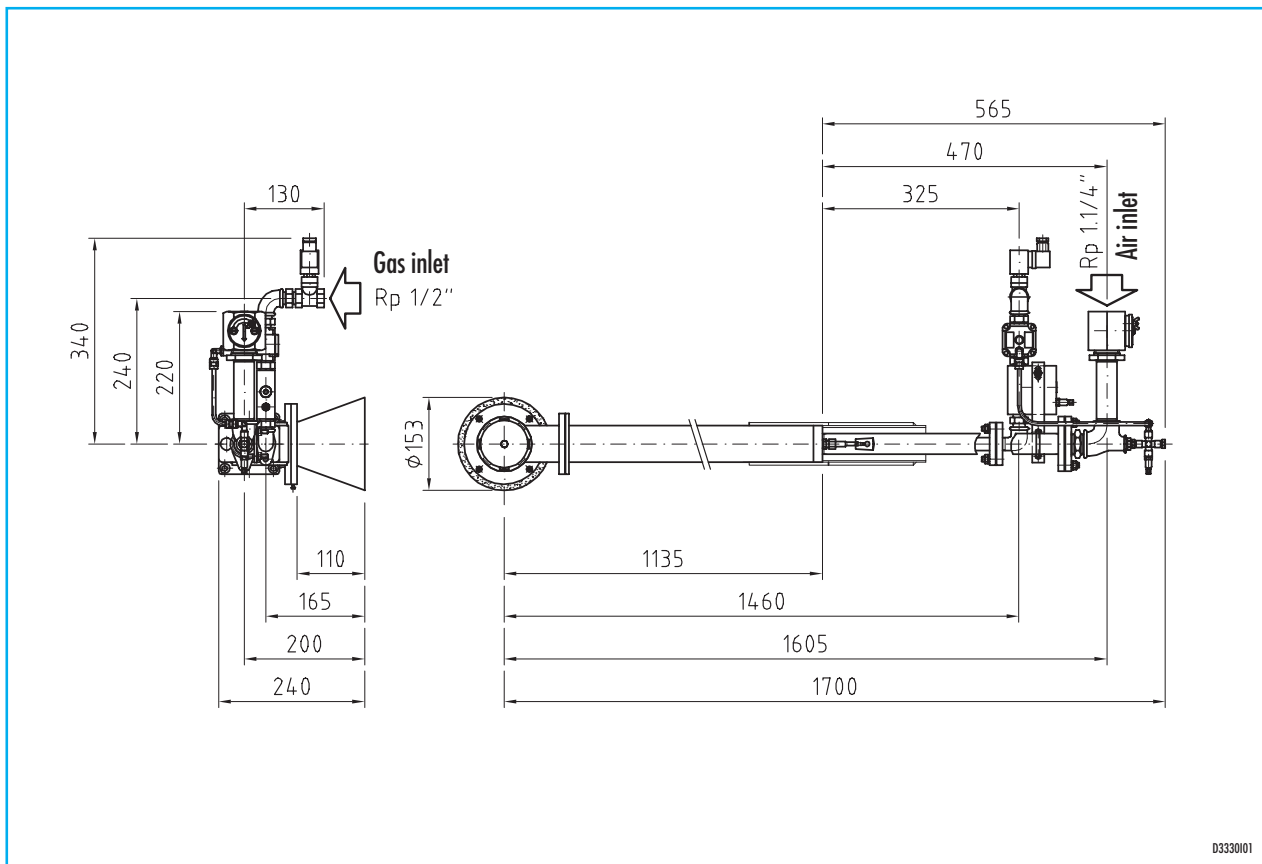
## FLOW CHART



Pos.	Model Identification
1	Orifice flow meter for $\Delta P$ air
2	Differential pressure transmitter
3	Motorized air valve
4	Electric control
5	Flexible pipe
6	Manual butterfly air valve
7	Main gas ball valve
8	Flexible pipe
9	Burner safety solenoid gas valve
10	Zero regulator
11	Impulse line
12	Gas adjuster
13	Burner
14	Flame control device
15	Box with ignition transformer

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## DIMENSIONS



NOTE: Based on the company's policy aimed at a continuous improvement on product quality, ESA-PYRONICS reserves the right to bring changes to the technical characteristics of this device without previous notice. Our catalog updated to the latest version is available on our web site [www.esapyronics.com](http://www.esapyronics.com) and it is possible to download modified documents

WARNING: When operating, this combustion system can be dangerous and cause harm to persons or damage to equipment. Every burner must be provided with a protection device that monitors the combustion. The installation, adjustment and maintenance operations should only be performed by trained and qualified personnel.