



# 产品手册

## Product Manual

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บริษัท บุญเยี่ยมและสหราชอาณาจักร จำกัด  
 BOONYIUM AND ASSOCIATES LIMITED  
 1314-1322 ถนนศรีนครินทร์ แขวงอ่อนนุช เขตสวนหลวง กรุงเทพฯ 10250  
 1314-1322 Srinakharin Road, On Nut, Suanluang, Bangkok 10250, THAILAND  
 Tel. 02 322 1878(Auto Line), 02 322 4330-3 Fax. 02 322 4328-8  
 Burner Section : 02 322 9365-8 Fax. 02 322 9360  
<http://www.boonyium.com> Email:burner@boonyium.com

让燃烧完美而简约  
 Make The Combustion Perfect And Simple

# ENTERPRISE INTRODUCTION

## 企业介绍

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DYDTEC with its motto of faith, challenge and passion specializes in supplying the high-efficiency burners, safety combustion system, air heater, heat exchanger, components and china sourcing service, operation and maintenance service and customized solutions.

DYDTEC is market leader in combustion field in China.

DYDTEC team are familiar with applications as automotive, environmental protection, industrial drying etc., from low temperature to high temperature solutions.

DYDTEC team are familiar with the European standard EN746 and American standard NFPA86.

DYDTEC, as a leader in the energy-saving combustion equipment industry, cover diversification applications with in-depth integration with customer applications, and is strongly committed to the development of future combustion system industry

DYDTEC has successfully exported products to America, Mexico, Europe, Japan, Australia and other regions.

DYDTEC employees and executives give our customers and partners a promise in harmony that our best service, trust, will be also provided.

DYDTEC team are dedicated to be excellent, honest, diligent, responsible.

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# Oxyflame Burner

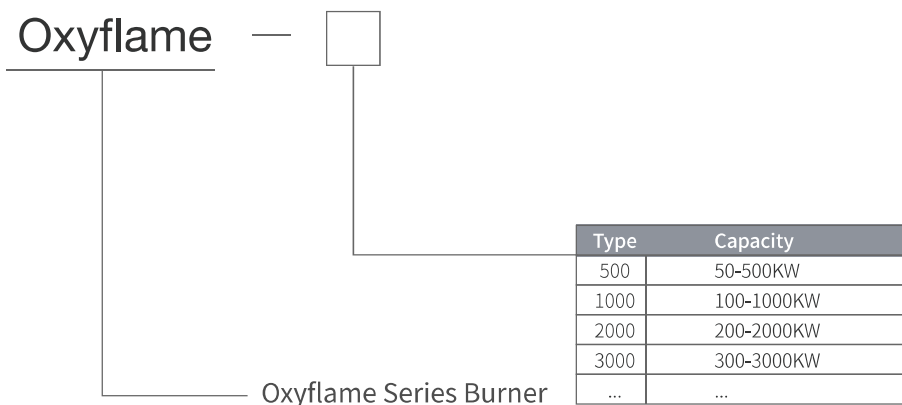
Oxyflame series burners are ultra-low flame temperature, low carbon, low nitrogen and flameless burners. They use fuel and oxygen to support combustion and have adjustable percentage switching between flame and flameless. They are used in metal and non-metal smelting, reverberatory furnace, rotary furnace and other high-temperature applications. They are suitable for furnaces and their molten pools with temperatures up to 1650 °C ~2200 °C; It can operate stably

- Oxygen, methane, propane, liquefied gas, mixed gas, hydrogen, diesel oil can be used as fuel, and stable operation can be achieved by changing the central gun;
- Combined control and monitoring of combustion safety control module and PLC are adopted. It can upload DCS system and realize data monitoring of Internet of things;
- High precision flow ratio regulation is adopted, and the temperature control is the most advanced double cross limit range combined with a set of systems, which can save energy by 5%~8% compared with the same type of products;
- Compact design, integrated mode switching regulating valve, and quick release structure piping is adopted for connecting parts. Convenient installation, commissioning and maintenance;
- The length of the fire protection tube of the burner can be selected in various specifications, and the fire-resistant brick can be perfectly combined with the furnace.;
- The power model of single burner is 0.5~3mw. If you need more power, you can contact dydtec for customization. More than 70% flameless mode is applicable to process environment above

780 °C

# OXYFLAME

## Type Definition



## Parameters

Type	Capacity (kW)	Natural gas flow (NM <sup>3</sup> /H)		Natural gas pressure (mbar)		Oxygen flow (NM <sup>3</sup> /H)		Oxygen pressure (mbar)	
		min.	max.	min.	max.	min.	max.	min.	max.
Oxyflame-500	50-500	5	50	50	650	12	110	2000	4000
Oxyflame-1000	100-1000	10	100	50	650	25	210	2000	4000
Oxyflame-2000	200-2000	20	200	50	650	30	420	2000	4000
Oxyflame-3000	300-3000	30	300	50	650	35	630	2000	4000

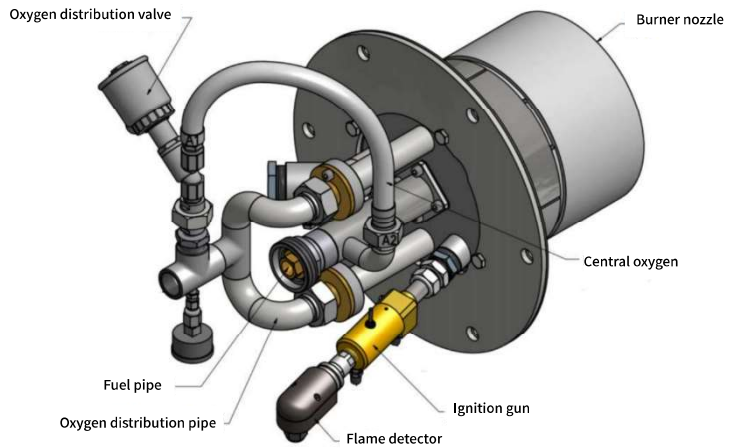
## Notes

1. Based on natural gas: 8500kcal/nm<sup>3</sup>, 1 atmosphere, 20 °C. Higher calorific values require special nozzle sizes. For more information, please contact our engineers.

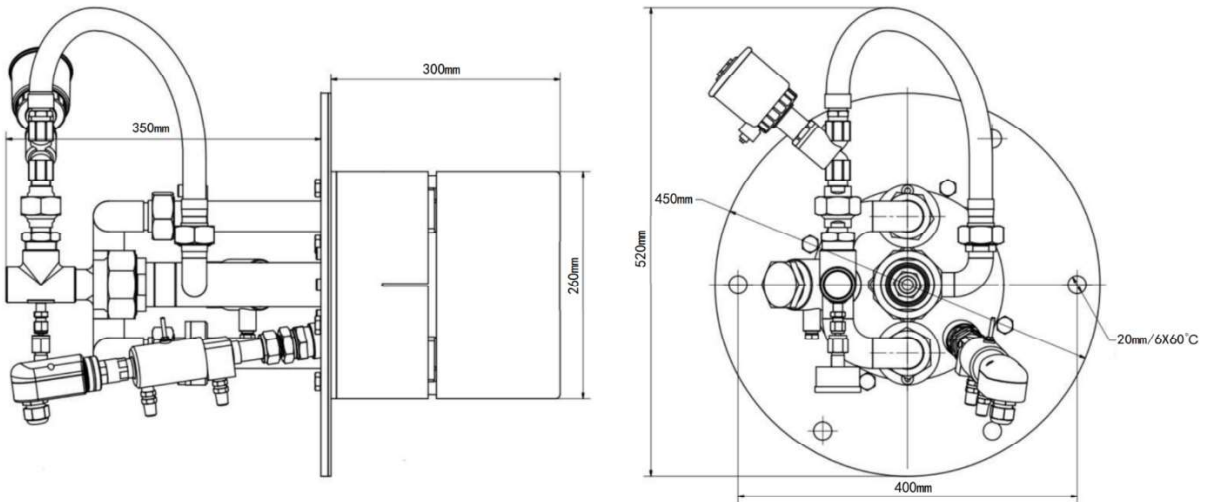
2. When selecting the burner brick material, in addition to the maximum temperature of the furnace, it should also adapt to the thermal shock resistance and furnace atmosphere (chemical composition). The burner brick material should be alumina or mullite



## Dimension



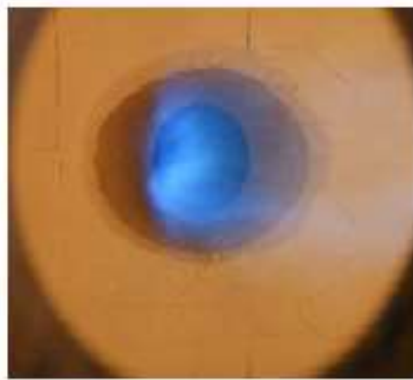
## Typical Dimension



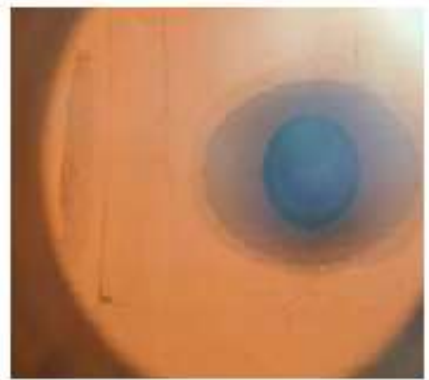
## Flame Shape



Pure oxygen normal combustion



Pure oxygen half-flameless combustion



Pure oxygen flameless combustion



## Operating instructions

### Routine inspection

- A) Leak detection shall be conducted for the system at least once every month;
- B) No fire is allowed around the combustion system (usually within 8m indoors and 5m outdoors, depending on the actual situation);
- C) Each part of the combustion system operates stably according to the working pressure;
- D) The outside of the combustion system pipeline is clean, and no corrosion is found on the surface.

### Maintenance & replacement

- A) The furnace temperature is high, so maintenance personnel shall wear corresponding protective clothing;
- B) Cut off the natural gas and oxygen and lock them. The burner can be pulled out of the furnace only after the flame is extinguished. It is forbidden to clean or replace the burner after disassembling the quick hose of natural gas and oxygen before the gas is completely closed;
- C) The burner shall be removed 20 minutes after the gas source is cut off, otherwise the nozzle may be damaged. In case of special circumstances, it shall be handled according to the actual situation, or call us for technical support at the first time.

### Notes

- A) UV flame detection is adopted, and flame rod detection is not allowed. And the pilot fire of the ignition burner cannot be used for flame detection.
- B) The fuel / oxygen ratio control valve shall be correctly selected, and the valve suitable for oxygen environment shall be selected.
- C) For best performance, use an intelligent combustion control system. It is recommended that calibrated flow meters be used in fuel and oxygen lines to establish accurate volumetric flow.
- D) When selecting burner brick materials, in addition to the maximum furnace temperature, it should also adapt to thermal shock resistance and furnace atmosphere (chemical composition)
- E) The burner can be adjusted to operate in proportion under excessive oxygen (oxidation environment) or excessive fuel (reduction environment). So as to realize stable combustion in oxidizing atmosphere and reducing atmosphere. Most conventional applications operate at 1-2% excess oxygen.
- F) If the burner is turned off when the furnace is still very hot, it is recommended to continue to inject a small amount of oxygen to cool the burner. Or use air or nitrogen purging to cool the burner to prevent the high temperature in the furnace from damaging the burner fuel insert and other components.
- G) For the long-term shutdown of the high-temperature furnace, it is recommended to remove the fuel pipe.



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1314-1322 Srinakarin Road, On Nut, Suanluang, Bangkok 10250, THAILAND  
Tel. 02 322 1070(Auto Line), 02 322 4330-3 Fax: 02 322 4328-8  
Burner Section : 02 322 9385-8 Email: burner@boonyium.com  
<http://www.boonyium.com>

Shanghai DYDTEC Industrial Equipment Co., Ltd

Address: Building 1, No.111 Zhiye Road Pudong District, Shanghai, China

TEL: +86-21-58814568

E-mail : info@dydtec.com

Web: www.dydtec.com

