



产品手册

Product Manual



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

COMPANY INTRODUCTION 公司介绍

DYDTEC Group is specialized in combustion industry. Our products and services include industrial burner, combustion system, flame treatment system, air heater, heat exchanger, project renovation for combustion safety, energy saving and low nitrogen, maintenance of combustion system. We see us as a solution provider in the combustion industry and can satisfy the needs from customers.

Over 10 years expanding, DYDTEC has supplied thousand of combustion systems and air heaters. We have rich application experiences in various industries including automotive, environment protection, industrial drying, light industry and heavy industry.

Our product applies the European standard EN746 and American standard NFPA86.

DYDTEC entered overseas market in 2016, we have successfully exported our products to the areas including US, EU, Africa, Asia and Pacific.

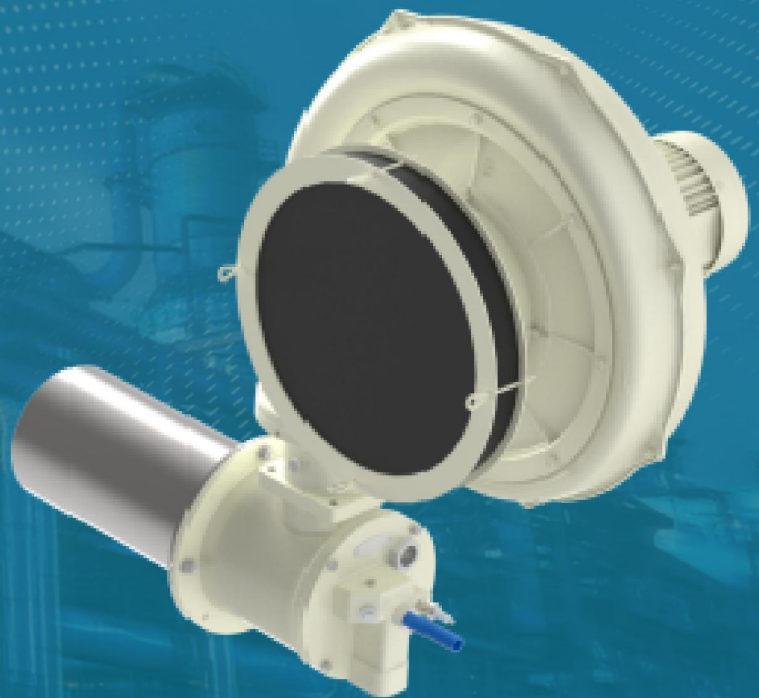
With our motto of faith, DYDTEC is dedicated to be excellent, honest, diligent, responsible. We have become the industrial combustion market leader in China and we are ambitious to become an outstanding brand worldwide in the field of industrial combustion in the next decade.

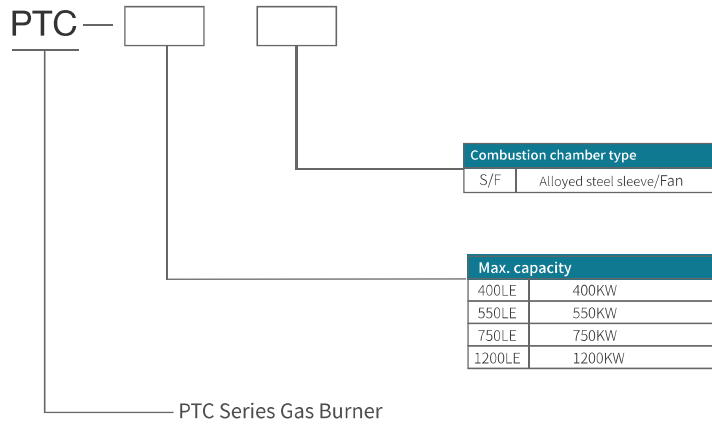


PTC-LE BURNER

PTC-LE gas burner is a high precision temperature control, low-NOx burner designed by DYDTEC for industrial applications. It has the characteristics of wide capacity regulation range, sufficient combustion, reliability and stability, high convective heat transfer efficiency and so on. It has a wide range of applications, such as hot air heater, drying furnace, preheating furnace, etc.

- Applicable maximum combustion chamber temperature 750 °C
- High convective heat transfer efficiency
- Turn down ratio 20:1
- Flexible adjustment to meet a variety of temperature control needs
- Perfect for both high and low temperature applications
- Low CO and NOx emissions
- Applicable to natural gas and LPG
- Direct ignition with spark plug





PARAMETERS

Type	PTC-400LES/F	PTC-550LES/F	PTC-750LES/F	PTC-1200LES/F
Max. capacity (kW)	400	550	750	1200
Required gas pressure (Pa)	1800	1500	2800	2800
Required combustion air pressure (Pa)	2000	1700	3000	3000
Flame diameter (mm)*	250	260	280	300
Flame length (mm)*	800	900	1000	1200
Motor power (kW)	2.2	2.2	3.7	7.5
Weight (kg)	80	85	95	150
power supply of fan (V)	AC380			
power supply of control (V)	AC220			
Oxygen content of combustion air	0.21			
Combustion chamber pressure range (kPa)	-0.5 ~ 0.5			
Maximum operating temperature (°C)	750			
Excess air coefficient	1.4			
Comprehensive NOx emissions (mg)	80			

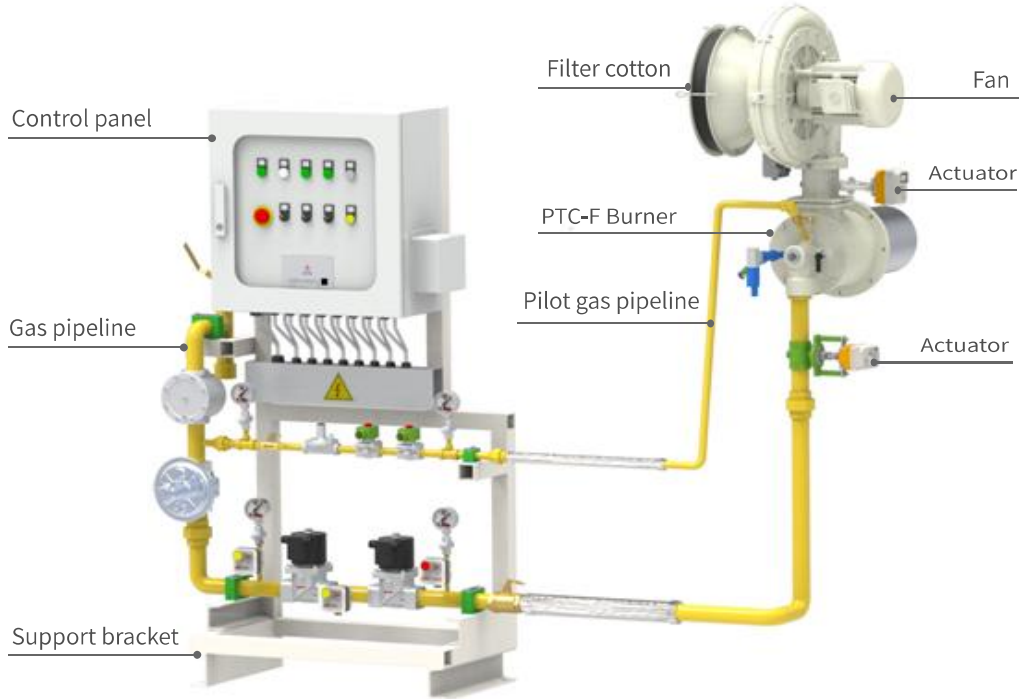
Data measurement conditions: natural gas, combustion air temperature 20 °C, combustion chamber

Description

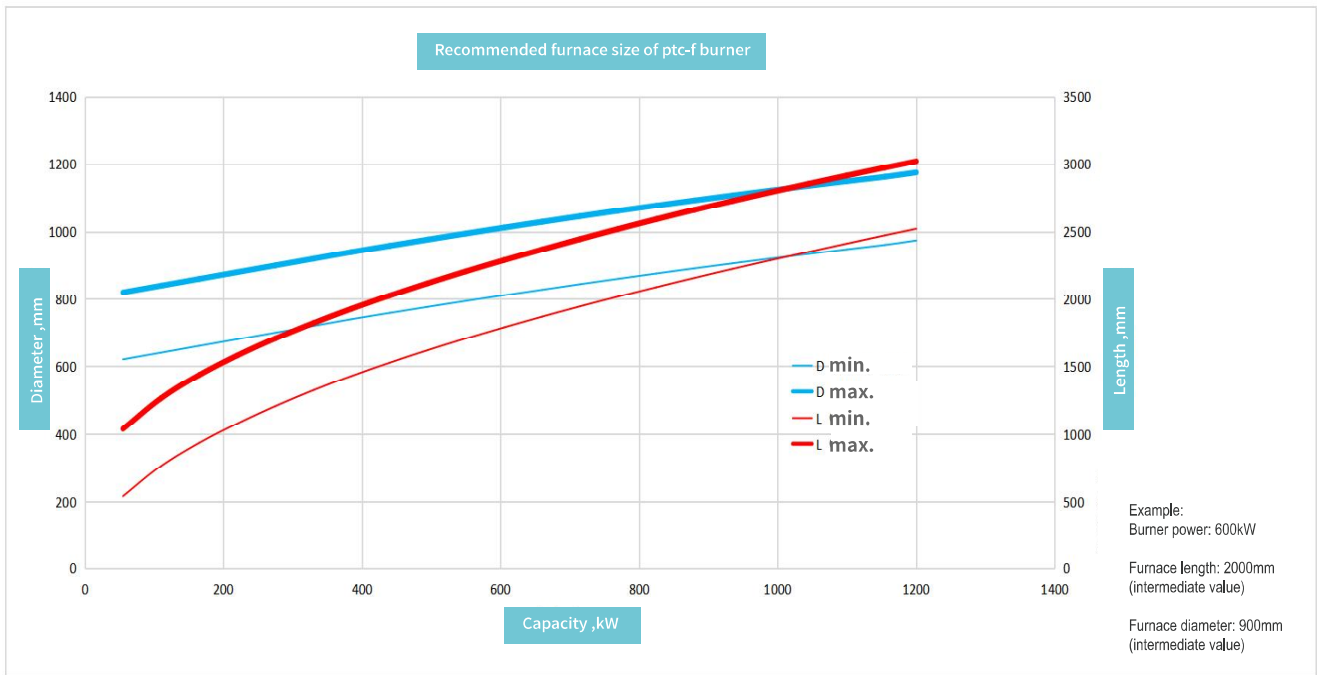
The flame length is calculated from the outlet of the fire casing.

02 SYSTEM

The PTC-LE burner is widely used for different high temperature processes. The typical configuration of a single burner is shown below:

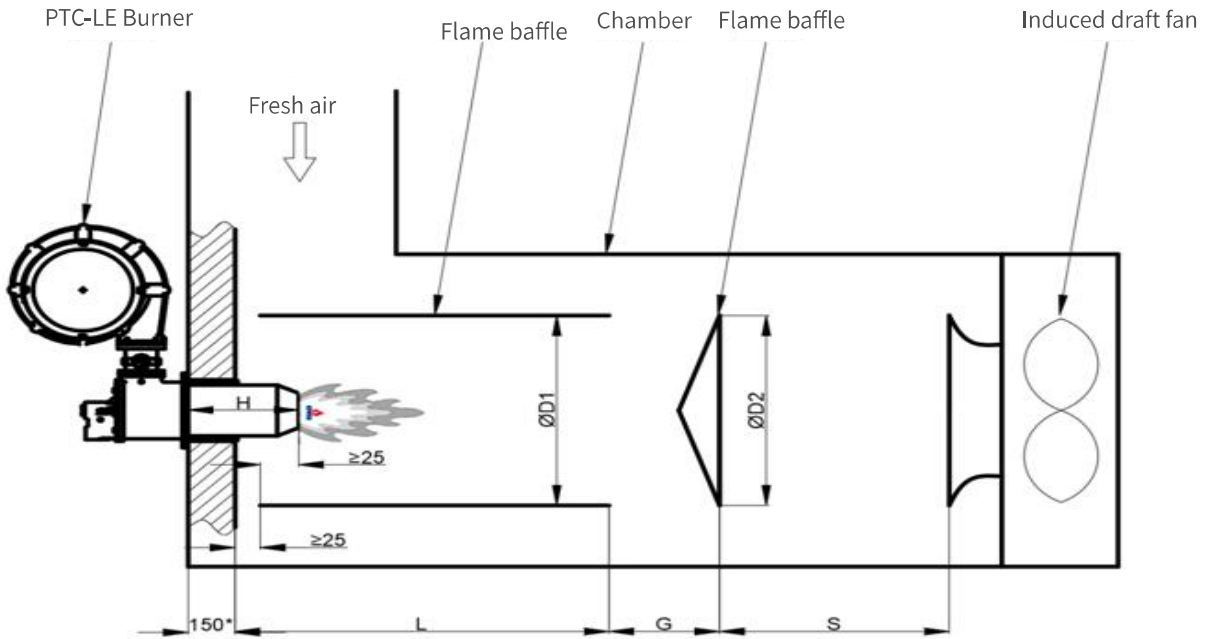


03 furnace size



PTC-LE burner is suitable for various low-temperature heating applications. The typical application diagram of circulating air is as follows.

PROCESS DRAWING



Dimension

Type	Typical design dimensions					
	D1	D2	G	H	L	S
PTC-400LE	800 ~ 900	900	300 ~ 400	365	≥ 1000	≥ 600
PTC-550LE	900 ~ 1000	1000	300 ~ 400	365	≥ 1100	≥ 600
PTC-750LE	1000 ~ 1100	1100	300 ~ 400	365	≥ 1200	≥ 600
PTC-1200LE	1100 ~ 1200	1200	300 ~ 400	406	≥ 1400	≥ 600

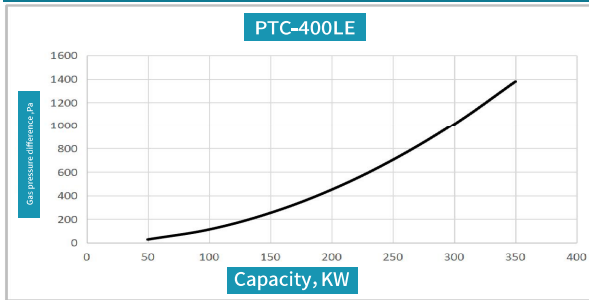
* — The thickness of the installation furnace wall is recommended to be 150mm.

05

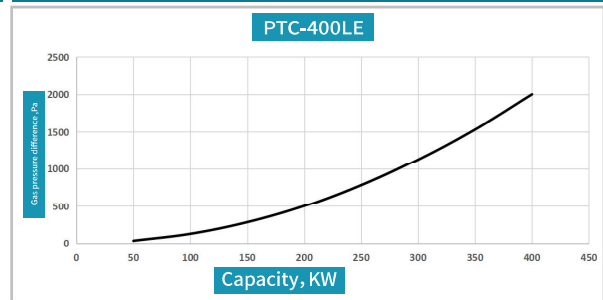
Data curve

PTC-400LE

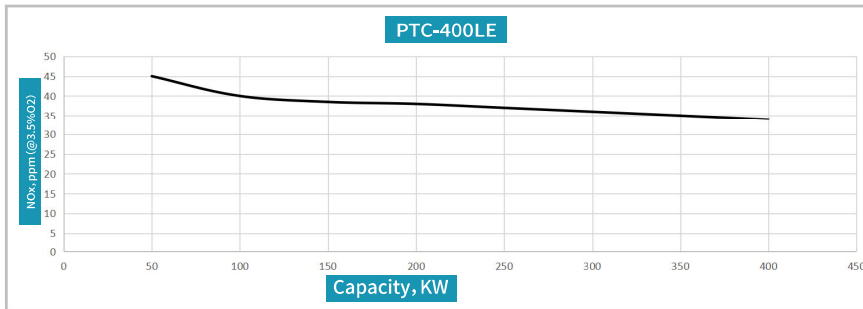
Gas pressure difference
(natural gas, detection position: gas pressure tap)



Combustion air pressure difference (detection position: combustion air pressure tap)



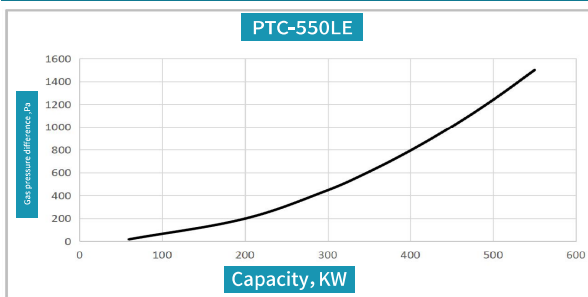
NOx emission



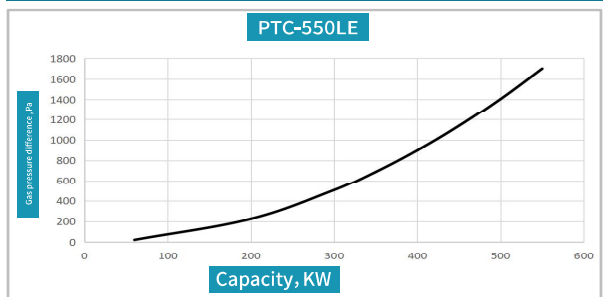
Note: NOx emission data are tested based on 600 °C combustion chamber temperature . NOx emission data is only for reference, because NOx emission is also affected by combustion chamber structure, excess air coefficient and other factors.

PTC-550LE

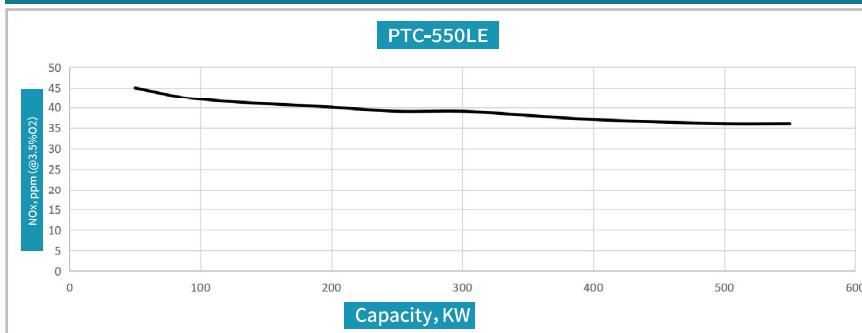
Gas pressure difference
(natural gas, detection position: gas pressure tap)



Combustion air pressure difference (detection position: combustion air pressure tap)



NOx emission

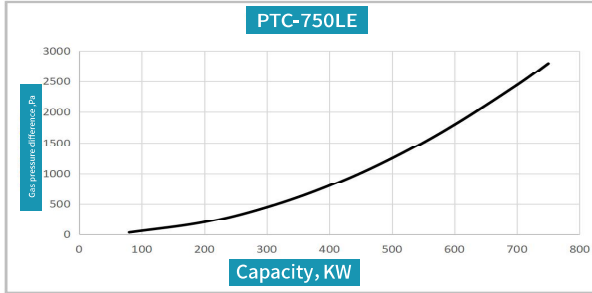


Note: NOx emission data are tested based on 600 °C combustion chamber temperature . NOx emission data is only for reference, because NOx emission is also affected by combustion chamber structure, excess air coefficient and other factors.

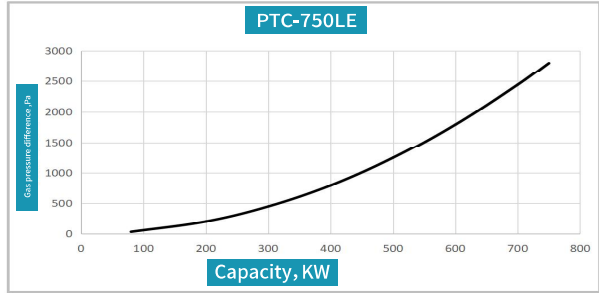


PTC-750LE

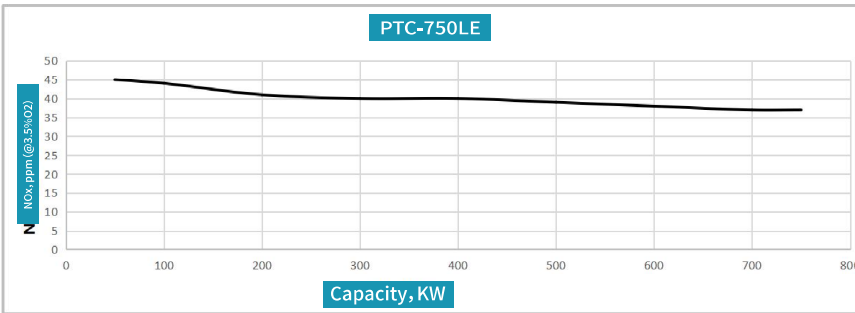
Gas pressure difference
(natural gas, detection position: gas pressure tap)



Combustion air pressure difference (detection position: combustion air pressure tap)



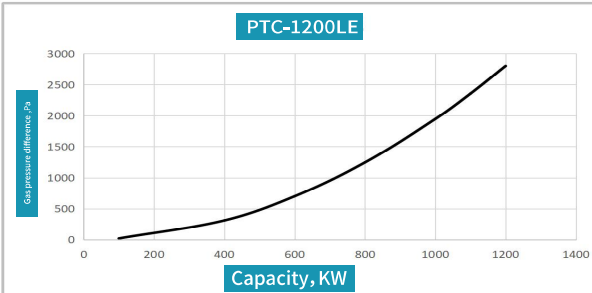
NOx emission



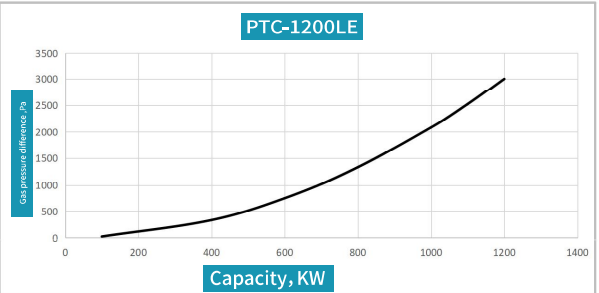
Note: NOx emission data are tested based on 600 °C combustion chamber temperature . NOx emission data is only for reference, because NOx emission is also affected by combustion chamber structure, excess air coefficient and other factors.

PTC-1200LE

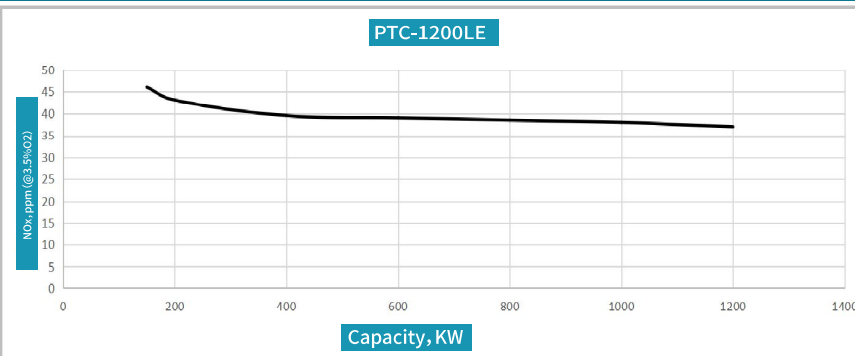
Gas pressure difference
(natural gas, detection position: gas pressure tap)



Combustion air pressure difference (detection position: combustion air pressure tap)



NOx emission

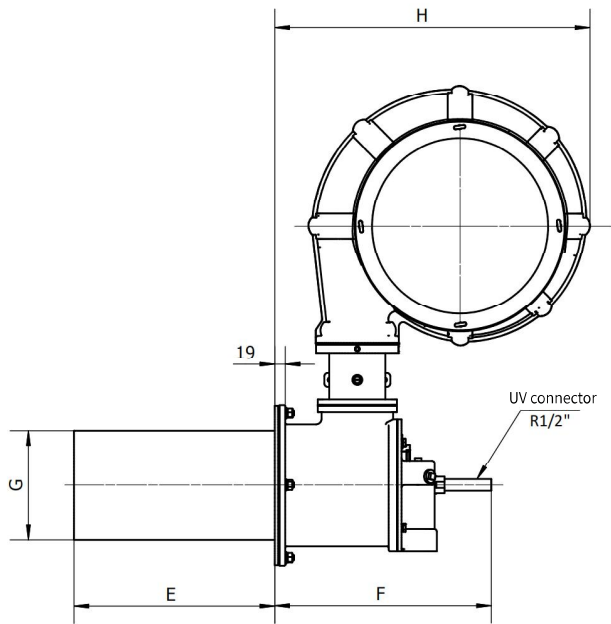
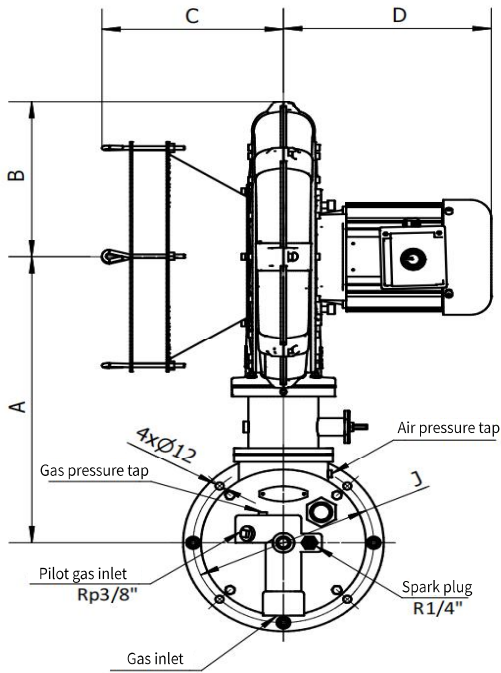


Note: NOx emission data are tested based on 600 °C combustion chamber temperature . NOx emission data is only for reference, because NOx emission is also affected by combustion chamber structure, excess air coefficient and other factors.

06

Overall dimension

OVERALL



DIMENSION

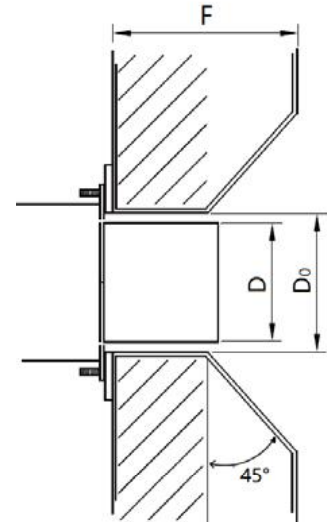
DIMENSION(mm)	A	B	C	D	E	F	G	H	I	J
PTC-400LE/F	506	286	260	345	354	365	199	570	Rp 1.5"	263
PTC-550LE/F	506	286	260	345	354	365	199	570	Rp 1.5"	263
PTC-750LE/F	564	342	274	380	354	365	199	680	Rp 1.5"	263
PTC-1200LE/F	634	398	253	479	395	406	254	800	Rp 2"	300

Mounting hole requirements

Before the installation of burner, holes shall be reserved on the furnace wall according to the size of refractory bricks. To facilitate installation, the opening size must be at least 20mm larger than the outer diameter of the refractory brick, and the recommended opening size D_0 range is $(D+20)_0^{+8}$ mm.

An expansion gap shall be reserved between the refractory brick / fire casing and the rigid material of the furnace wall, and shall be filled and tamped with aluminum silicate fiber cotton.

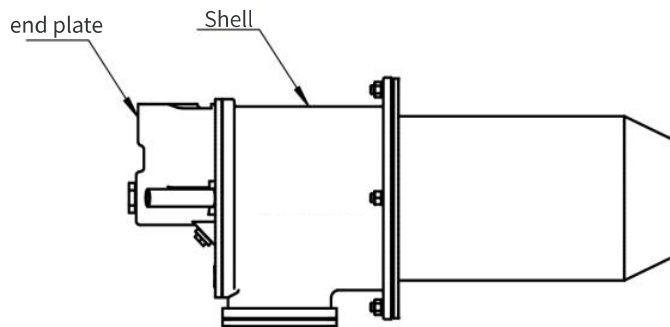
When the thickness of the furnace wall is greater than the length of the refractory brick / fire casing, the excess part shall be at the bell mouth with an included angle of 45° along the flame flow direction inside the furnace wall (as shown in the figure), so as to avoid the scouring of the furnace wall by the high-temperature flame.



Installation notes

- An expansion gap shall be reserved between the refractory brick / fire casing and the rigid material of the furnace wall, which shall be filled and tamped with aluminum silicate fiber cotton;
- The fiber gasket is used for sealing between the burner mounting flange and the furnace wall mounting plate;
- After the furnace is used for the first time at the design temperature, please check the shrinkage of the fiber around the refractory brick / fire casing, and refill the gap with the refractory fiber to ensure good sealing;
- Flexible compensation connecting pipe must be used in the pipeline system of combustion supporting air and gas;
- The burner must be installed correctly as required to avoid abnormal heat transfer.

- When the burner is in normal use, the surface temperature of the burner shell and end plate is lower than 60 °C.





- When the burner is shut down, if the temperature in the combustion chamber is higher than 200 °C, a small amount of combustion air shall be reserved to reduce the temperature of the burner.
- All installation, maintenance, ignition and setting must be operated by professional technicians in strict accordance with the latest local standards and specifications. In order to avoid personal and property damage, please strictly comply with the requirements in the operation manual.
- Operators must wear appropriate protective clothing (shoes, safety helmet).
- In order to avoid the risk of burns or high-voltage electric shock when the burner is in ignition stage or high-temperature operation stage, the operator must avoid any contact with the burner.
- All simple or complex maintenance can only be allowed under shutdown status.
- Product improvement and specification parameters are subject to change without notice.



09

Accessories 

NO.	Accessories	Type	Applicable Burner	Photo
1	Spark plug	RP-SE-400LE	PTC-400LE	
			PTC-550LE	
			PTC-750LE	
		RP-SE-1200LE	PTC-1200LE	
2	Gasket	RFG075-8	PTC400LE	
			PTC-550LE	
			PTC-750LE	
		RFG125-8	PTC-1200LE	



DYDTEC COMBUSTION

Add: Floor 1&4 of Building 1, No.111 Zhiye Road Pudong District, China

Tel: 86-21-58814568

E-mail: info@dydtec.com

Web: www.dydtec.com

