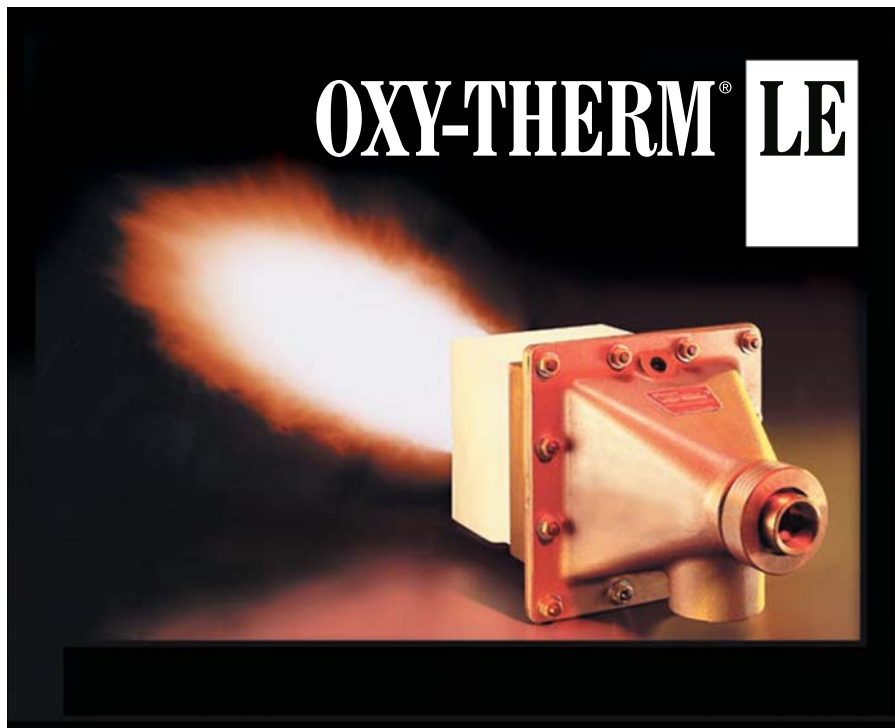


OXY-THERM® LE

Gas or oil burners



- **Extremely low NOx levels** with patented oxygen staging design.
- **Burns any gaseous fuel**, including fuels that may be unstable using air for combustion.
- Fuel oil capability ranges from **light to heavy fuel oils**.
- **Quickly convert between gas and oil service** by changing the burner nozzle.
- **Patented design eliminates flame lofting** providing cooler furnace crowns.
- Designed for **easy installation and service**. OXY-THERM® LE Burner nozzles can be removed during furnace operation, eliminating costly downtimes.
- Dramatically increase available heat by producing **higher flame temperatures** from burning fuels with oxygen.

Product description

With OXY-THERM® LE Burners firing gas, oxygen for combustion enters the burner housing and exits the burner block where it mixes with the fuel.

For oil firing, the oil enters through the nozzle and is atomized with either oxygen, air, steam, or fuel gas and combines with the combustion oxygen as it exits the burner block.

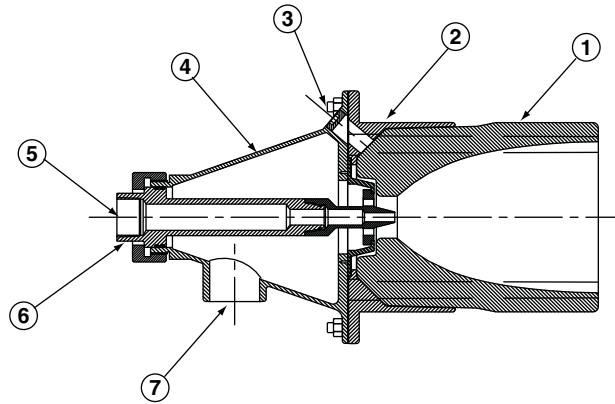
The oxygen-fuel flame discharges through the refractory block tunnel and develops a luminous, non-lofting, tightly-wrapped flame pattern.

Typical applications in industry include converted regenerative-type furnaces and melters, unit melters, non-ferrous melting, waste incinerators, smelters, and special applications requiring high temperatures.

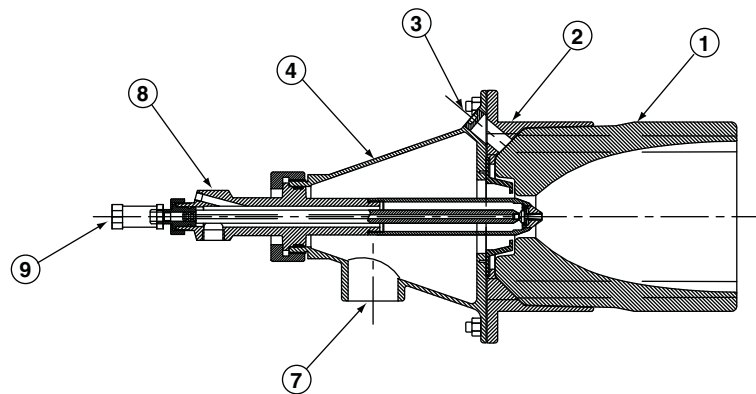
Flow control and shut-off valves (available from MAXON) need to conform with the appropriate standards for oxygen service.

Two refractory block materials are available for OXY-THERM® LE Burners. Alumina/zirconia/silica (AZS) burner blocks and zirconia burner blocks may be used with gas firing and oil firing. Extended block versions are only available in AZS material.

OXY-THERM® LE gas burners



OXY-THERM® LE oil burners



- 1) Burner block
- 2) Block frame
- 3) Pilot/observation port
- 4) Burner housing
- 5) Fuel inlet
- 6) Gas insert nozzle
- 7) Oxygen inlet
- 8) Oil insert nozzle
- 9) Oil inlet

Available OXY-THERM® LE sizes

OXY-THERM® LE - gas firing

Typical burner data			
Fuel: natural gas at 60°F with 1000 Btu/ft ³ (st) HHV - sg = 0.6 [1]			
propane at 60°F with 2500 Btu/ft ³ HHV - sg 1.57 [1]			
Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality.			
Gas OXY-THERM® LE Burners		OXY-THERM® LE Burners	
		Series 600	Series 900
		Series 1200	
Maximum capacity range	MBtu/h	0.2 to 2.7	1.5 to 11
Turndown		5:1	
Pressures required to burner inlet for maximum capacities [3]	Oxygen	Refer to "Specifications of OXY-THERM® LE burners" for pressure curves	
	Natural gas	psig	0.5-8 [3]
	Propane	psig	1-20 [3]

[1] sg (specific gravity) = relative density to air (density air = 0.0763 lb/ft³ (st))

[2] Capacities greater than 15 MBtu are possible. Contact MAXON for specific details.

[3] Gas OXY-THERM® Burners are custom sized to meet your application and utility requirements. Please contact MAXON for specific details.

OXY-THERM® LE - oil firing

Typical burner data								
Fuel: light oil (#2): 19.4 Btu/lb								
Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality.								
Oil OXY-THERM® LE Burners	Series	Series 600 or 900	Series 900				Series 1200	
	Size	70	100	150	200	300	300	400
Maximum output	MBtu/h	3.1	4.4	7.5	10	14.9	14.9	19.9
Maximum fuel flow	gallons/h	21	30	52	69	103	103	137
Minimum fuel flow	gallons/h	4.2	6	10	15	26	26	34

Applications

OXY-THERM® LE burners produce dramatic savings in high temperature applications by reducing the total flue gas volume in a furnace. In addition, the higher flame temperature of oxy-fuel firing increases the radiant heat transfer to most applications.

OXY-THERM® LE burners have been successfully applied to glass furnaces, day tanks, incinerators, metal melting furnaces, reheat furnaces, kilns, and many other types of higher temperature applications.



OXY-THERM® LE mounted on a glass furnace



OXY-THERM® LE staged flame pattern

Dimensions and weights

- 1) Gas inlet
- 2) Oxygen inlet
- 3) 1/4" NPT oxygen test connection
- 4) 3/8" NPT oil inlet
- 5) 3/4" NPT atomizing oxygen inlet
- 6) 1/2" NPT pilot and/or flame detection
- 7) Furnace wall exterior

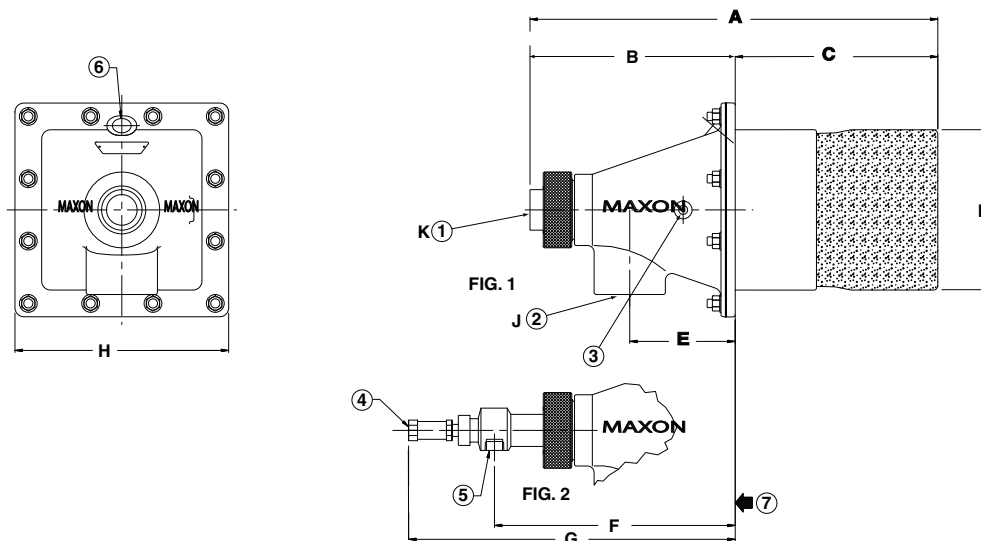


FIG. 1 = OXY-THERM® LE gas burner
FIG. 2 = OXY-THERM® LE oil burner

Dimensions in inches unless stated otherwise												
Burner series	A	B	C [1]	D sq.	E	F	G	H sq.	J NPT	K NPT	Weight lbs	
											AZS	Zirc
600	16.4	7.78	8.63	6.06	3.18	8.91	15.15	9.0	1-1/4"	1"	65	95
900	22.9	11.52	11.38	9.0	5.92	13.52	18.34	12.06	3"	1-1/2"	160	225
1200	22.9	11.52	11.38	12.0	5.92	13.52	18.34	12.06	3"	1-1/2"	225	340

[1] Standard block length. A longer block (extended version) is available. Refer to "Specifications of OXY-THERM® LE burners" for more details.

Typical emissions

OXY-THERM® LE burners utilize a patented oxygen staging technology to reduce the formation of NOx in high temperature furnaces. Through deep staging of the oxidant flow, NOx is controlled to levels typically lower than conventional oxy-fuel burners. By reduction in total flue gas volume, the total mass of NOx created is often lower than air-fuel firing.

Exact emissions performance may vary in your application. Contact MAXON for information on installation specific estimates or guarantees. No guarantee of emissions is intended or implied without specific written guarantee from MAXON.

Read "Specifications of OXY-THERM® LE burners" for more detailed information on OXY-THERM® LE burners.