

TUBE-O-THERM®

Low Temperature Gas Burners



- Fires directly into small-bore immersion tubes
- Burner-to-tube direct firing system allows uniform heat transfer, eliminates “hot spots”, and produces faster bring-up times
- Economical and efficient package design with integral low power blower costs less and saves energy (external blower models also available)
- No hassle installation and easy maintenance access with wall mounted design
- Burns natural, propane or butane gas and produces reduced levels of NOx and CO
- Flame scanner capability for all sizes
- Four models sized for 3”, 4”, 6”, 8” and 10” diameter tubes
- Heat releases up to 2500 kW
- No powered exhaust required, saving energy

Product description

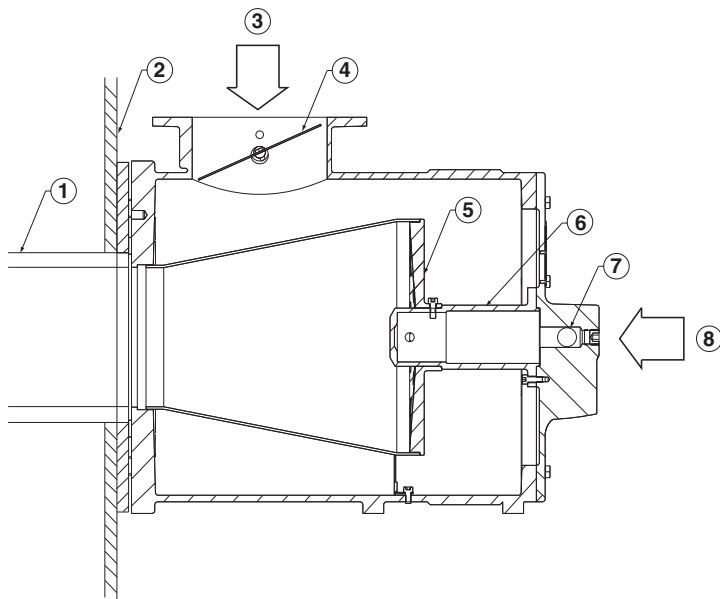
MAXON TUBE-O-THERM® burners are nozzle-mixing, gas fired, refractory-less burners specifically designed for firing into a small bore tube. The burner fires cleanly with natural gas, propane, butane or LPG blends.

TUBE-O-THERM® burners are available in two basic versions:

- packaged with integral combustion air blower
- EB (external blower) for use with an external combustion air source for extended capacities

Both versions incorporate a gas and air valve linked together to control the gas/air ratio over the full throttling range of the burner. Gas flows through the gas nozzle where it mixes with the combustion air.

- 1) Fire tube
- 2) Tank wall
- 3) Air inlet
- 4) Air control valve
- 5) Air mixing plate
- 6) Gas nozzle
- 7) Gas control valve
- 8) Gas inlet



Available TUBE-O-THERM[®] burner sizes

Typical burner data							
Fuel: natural gas at 15°C with 10.9 kWh/Nm ³ HHV - sg = 0.6 [1]							
Combustion air: 15°C - 21% O ₂ - 50% humidity - sg = 1.0 [1]							
Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality.							
TUBE-O-THERM [®] burner	Size	3"		4"		6"	
	Description	Pkgd. [2]	EB	Pkgd. [2]	EB	Pkgd. [2]	EB
Maximum capacity	kW	120	220	220	400	490	880
Pilot capacity	kW	12	22	22	40	32	59
Minimum capacity	kW	12	22	22	40	39	70
Gas pressure burner inlet	mbar (g)	59	181	51	166	64	191
Gas pressure burner test port	mbar (g)	54	157	45	145	51	155
Combustion air pressure required	mbar (g)	9	42	11	39	15	43

[1] sg (specific gravity) = relative density to air (density air = 1.293 kg/Nm³)

[2] Given data on packaged burners are those on 50 Hz operation. For 60 Hz operation, the burner requires a different blower motor. In this case, the capacities will rise 20%, air and gas pressures will rise 44%.

Typical burner data					
Fuel: natural gas at 15°C with 10.9 kWh/Nm ³ HHV - sg = 0.6 [1]					
Combustion air: 15°C - 21% O ₂ - 50% humidity - sg = 1.0 [1]					
Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality.					
TUBE-O-THERM [®] burner	Size	8" burner			
	Description	Pkgd. [3]	EB	8" HC 8" tube [2]	8" HC 10" tube [2]
Maximum capacity	kW	855	1555	2200	2500
Pilot capacity	kW	85	155	147	147
Minimum capacity	kW	85	138	73	82
Gas pressure burner inlet	mbar (g)	64	190	312	361
Gas pressure burner test port	mbar (g)	57	180	276	349
Combustion air pressure required	mbar (g)	17	62	74	68

[1] sg (specific gravity) = relative density to air (density air = 1.293 kg/Nm³)

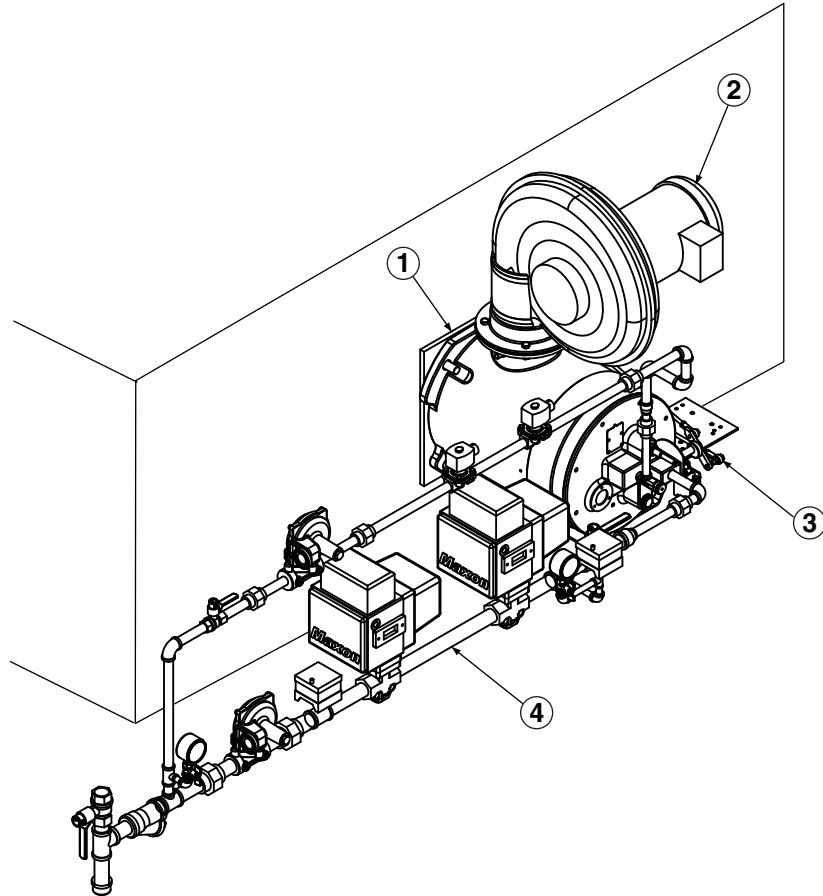
[2] HC burners require the use of an external blower (EB)

[3] Given data on packaged burners are those on 50 Hz operation. For 60 Hz operation, the burner requires a different blower motor. In this case, the capacities will rise 20%, air and gas pressures will rise 44%.

Applications

Typical applications include industrial solution heating jobs such as dip tanks, glycol reboilers, spray washers, pickling or quench tanks and salt baths. TUBE-O-THERM® burners may also be used with proper design for indirect air heaters and bakery ovens.

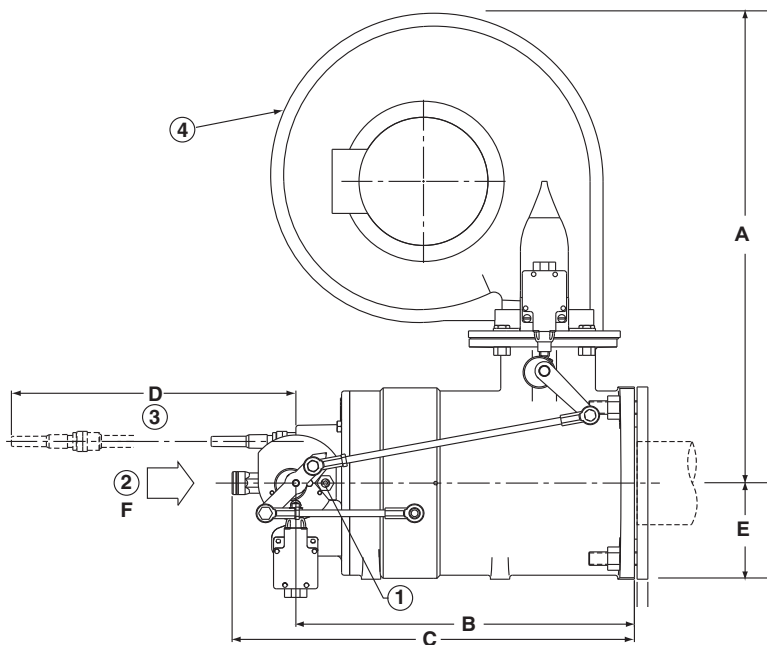
- 1) TUBE-O-THERM® burner
- 2) Combustion air fan
- 3) Air/gas control linkage
- 4) MAXON gas pipe train



Dimensions and weights

Packaged TUBE-O-THERM® burners

- 1) Gas test connection
- 2) Gas inlet
- 3) Required dimension for ignitor removal
- 4) Combustion air blower

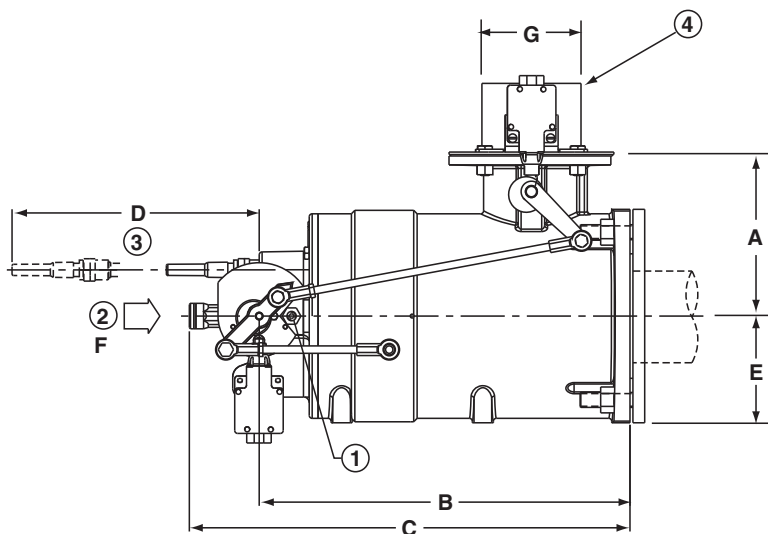


Dimensions in mm unless stated otherwise							
Burner size	A	B	C	D	E	F [1]	Weight kg
3"	549	401	478	267	124	1/2"	66
4"	577	445	517	267	145	1/2"	77
6"	725	521	585	381	197	3/4"	120
8"	780	603	648	356	234	1-1/4"	170

[1] Connections are threaded (NPT or ISO)

EB (external blower) TUBE-O-THERM® burners

- 1) Gas test connection
- 2) Gas inlet
- 3) Required dimension for ignitor removal
- 4) Combustion air inlet



Dimensions in mm unless stated otherwise								
Burner size	A	B	C	D	E	F [1]	G	Weight kg
3" EB	171	400	475	267	124	1/2"	102	48
4" EB	190	445	517	267	145	1/2"	102	61
6" EB	239	520	585	381	197	3/4"	152	91
8" EB	295	603	648	356	234	1-1/4"	152	134

[1] Connections are threaded (NPT or ISO)

Typical emissions

TUBE-O-THERM® burners utilize rapid mixing of fuel and air to suppress formation of NOx. With lower levels of excess air than many tube burners, the TUBE-O-THERM® also controls the production of CO to low levels at most of its firing rates.

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 TUBE-O-THERM® burners" for correct and complete information on TUBE-O-THERM® burners.