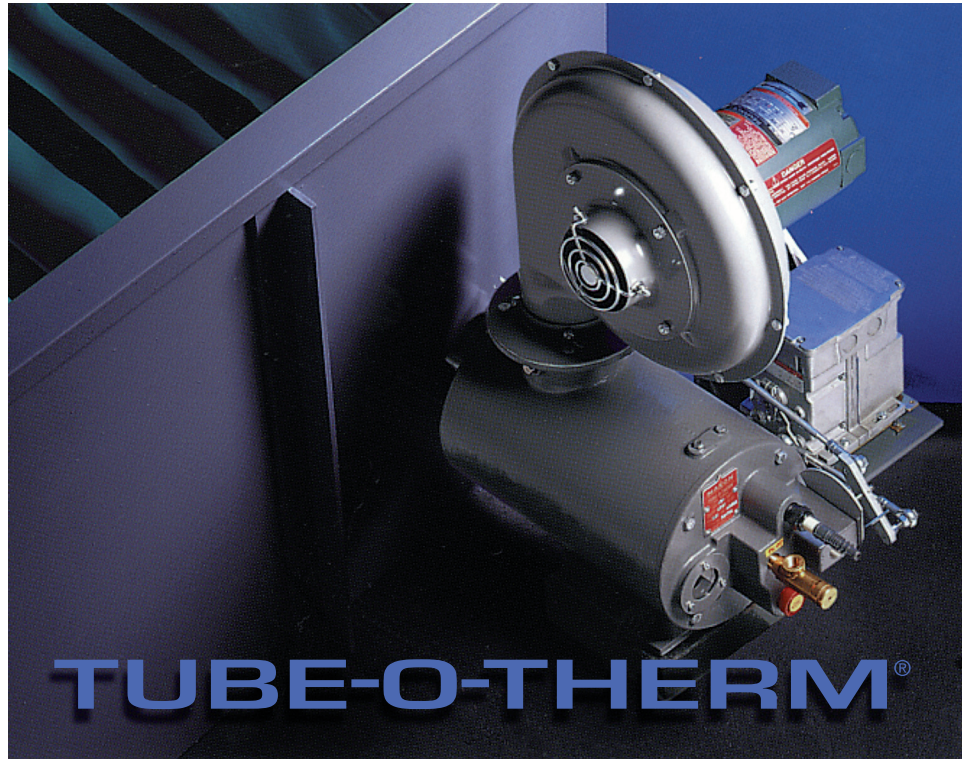


# TUBE-O-THERM®

## 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 8,500,000 Btu/hr
- No powered exhaust required, saving energy

## Product description

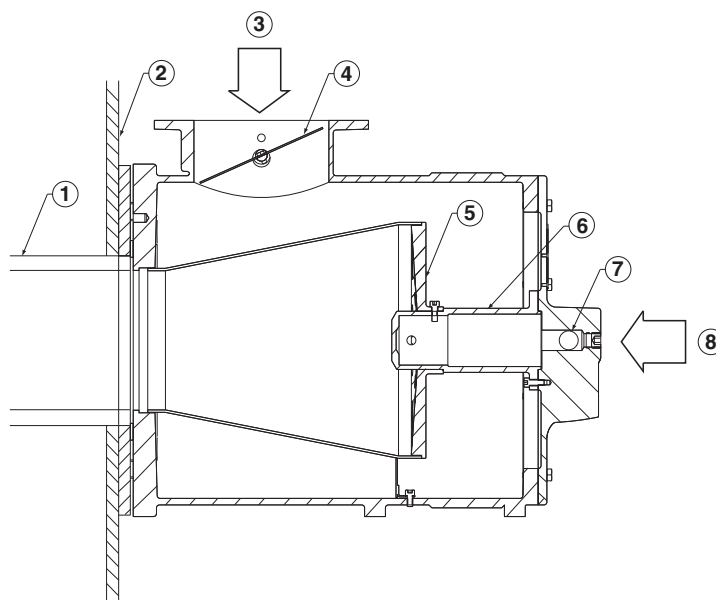
MAXON TUBE-O-THERM® burners are nozzle-mixing, gas fired, refractory-less burners specifically designed for firing into a small bore tube. The burner fires cleanly with natural gas, propane, butane or LPG blends.

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 60°F with 1000 Btu/ft <sup>3</sup> (st) HHV - sg = 0.6 [1]							
Combustion air: 60°F - 21% O <sub>2</sub> - 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.	EB	Pkgd.	EB	Pkgd.	EB
Maximum capacity	MBtu/h	0.5	0.75	0.9	1.35	2.0	3.0
Pilot capacity	MBtu/h	0.05	0.075	0.09	0.135	0.13	0.2
Minimum capacity	MBtu/h	0.05	0.075	0.09	0.135	0.16	0.24
Gas pressure burner inlet	"wc	35.3	72.5	29.5	65.3	36.5	76.4
Gas pressure burner test port	"wc	32.1	63.0	25.8	56.9	29.2	62.1
Combustion air pressure required	"wc	5.6	16.8	6.6	15.4	8.4	17.1

[1] sg (specific gravity) = relative density to air (density air = 0.0763 lb/ft<sup>3</sup> (st) )

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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.	EB	8" HC 8" tube [2]	8" HC 10" tube [2]
Maximum capacity	MBtu/h	3.5	5.3	7.5	8.5
Pilot capacity	MBtu/h	0.35	0.53	0.50	0.50
Minimum capacity	MBtu/h	0.35	0.47	0.25	0.28
Gas pressure burner inlet	"wc	37.0	76.0	125	144
Gas pressure burner test port	"wc	33.0	72.0	110.8	139
Combustion air pressure required	"wc	9.9	24.9	29.7	27.1

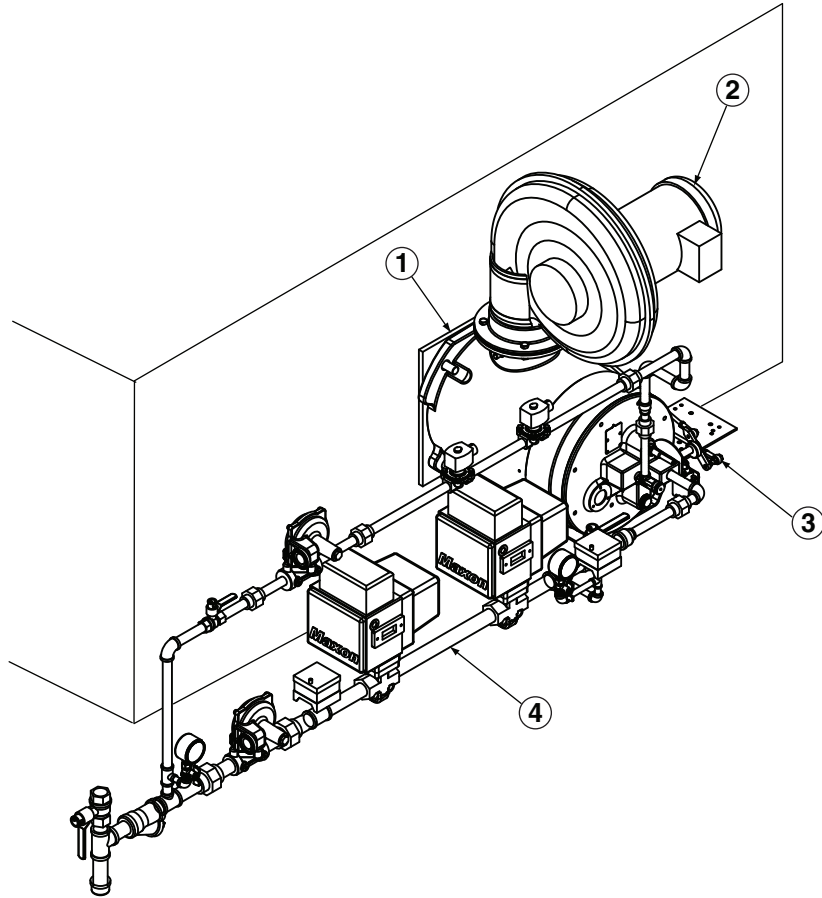
[1] sg (specific gravity) = relative density to air (density air = 0.0763 lb/ft<sup>3</sup> (st) )

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

## 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<sup>®</sup> burners may also be used with proper design for indirect air heaters and bakery ovens.

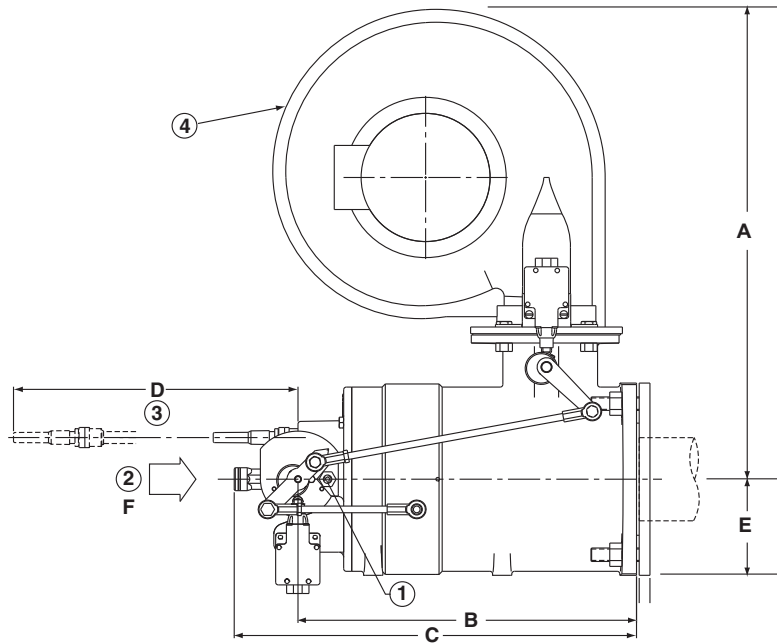
- 1) TUBE-O-THERM<sup>®</sup> burner
- 2) Combustion air fan
- 3) Air/gas control linkage
- 4) MAXON gas pipe train



## Dimensions and weights

### Packaged TUBE-O-THERM<sup>®</sup> burners

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

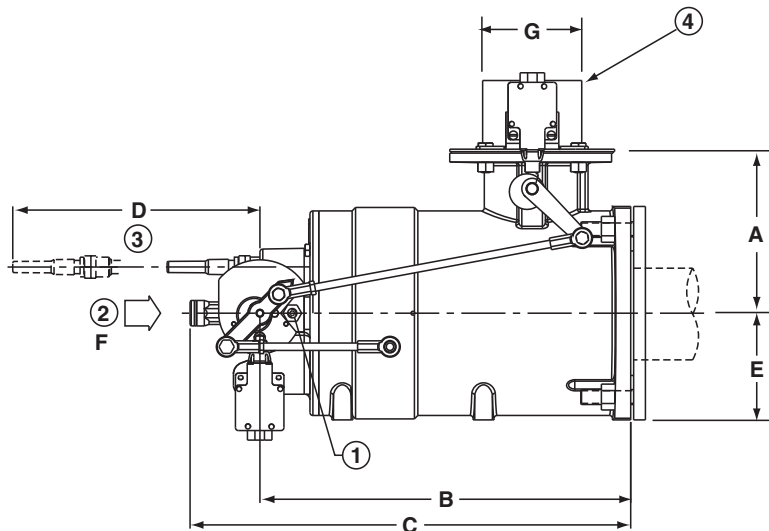


Dimensions in inches unless stated otherwise							
Burner size	A	B	C	D	E	F [1]	Weight lbs
3"	21.6	15.8	18.8	10.5	4.9	1/2"	145
4"	23.1	17.5	20.34	10.5	5.7	1/2"	170
6"	28.55	20.5	23.03	15.0	7.75	3/4"	265
8"	30.7	23.75	25.5	14.0	9.2	1-1/4"	370

[1] Connections are threaded (NPT or ISO)

## EB (external blower) TUBE-O-THERM<sup>®</sup> burners

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



Dimensions in inches unless stated otherwise

Burner size	A	B	C	D	E	F [1]	G	Weight lbs
3" EB	6.75	15.75	18.72	10.5	4.9	1/2"	4.0	105
4" EB	7.83	17.5	20.34	10.5	5.7	1/2"	4.0	135
6" EB	9.4	20.49	23.03	15.0	7.75	3/4"	6.0	200
8" EB	11.6	23.75	25.5	14.0	9.2	1-1/4"	6.0	295

[1] Connections are threaded (NPT or ISO)

### Typical emissions

TUBE-O-THERM<sup>®</sup> burners utilize rapid mixing of fuel and air to suppress formation of NO<sub>x</sub>. With lower levels of excess air than many tube burners, the TUBE-O-THERM<sup>®</sup> 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<sup>®</sup> burners" for correct and complete information on TUBE-O-THERM<sup>®</sup> burners.