

# ECLIPSE THERMTHIEF BURNERS

*Precise, uniform temperatures for better process quality and longer tube life*

**Unique flame profile actually scrubs fire tubes clean**

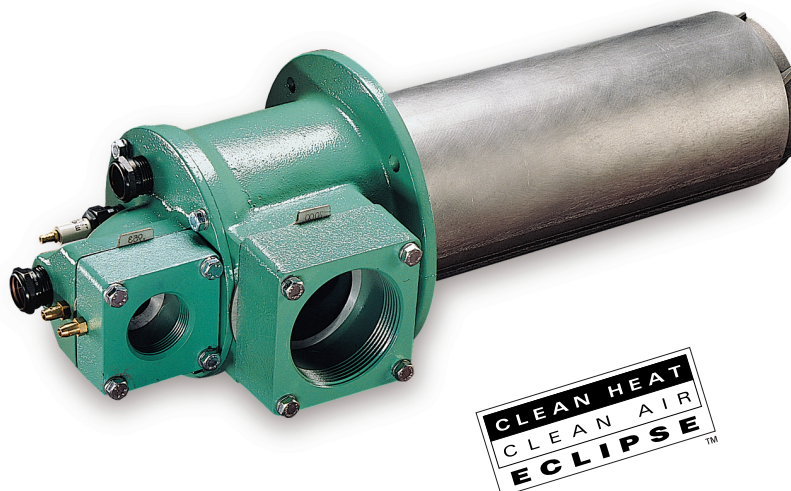
Designed to fire radiant and immersion tubes with inputs from 25,000 to 2,000,000 Btu/hr. ThermThief's unique nozzle creates an intense —adjustable length—flame with a vigorous spinning action. The flame scrubs the inside of the fire tubes to remove the gas film boundary layer and increase heat transfer effectiveness with outstanding temperature uniformity. Not only does this contribute to longer tube life, it also ensures consistently uniform product processing.

ThermThief delivers these additional benefits:

- Low NOx and low CO.
- Low excess air capability for high efficiency.
- Low air and gas pressure requirements.
- High heat transfer at low noise levels.
- Reliable ignition at a wide range of firing rates.
- Can be fitted with Eclipse Bayonet-Ultra recuperators for maximum system efficiency.

**Versatile and adaptable; easy to install operate and service**

Every ThermThief burner offers the convenience of multi-fuel capability with the same nozzle for global



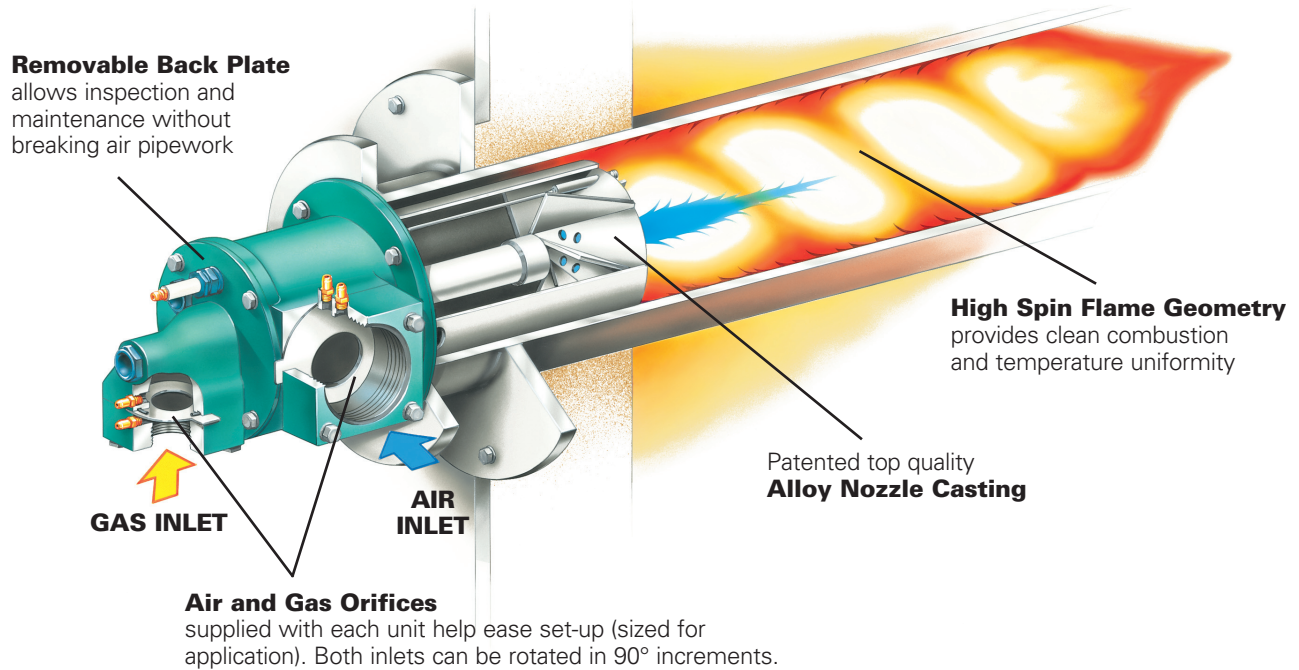
application; either ambient or pre-heated combustion air; straight U, W or Trident®-type tube designs. And, ThermThief burners are user-friendly.

- Uncomplicated installation.
- Integrated gas/air metering make set up a snap.
- Two peepsights provide clear visual access for flame verification and adjustment.

In the Eclipse tradition, long life and low maintenance are design priorities. ThermThief burners deliver a level of safety, operating efficiency and reliability that are second to none.

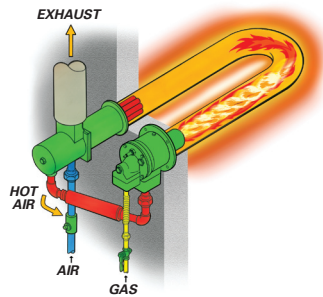
# ThermThief Burners

*Ideal for indirect heating of tubes where tube temperature uniformity is at a premium.*



## ThermThief Burners & Bayonet-Ultra Recuperators: Impressive Individually... Unsurpassed as a Team

It's a fact: As much as 65% of the heat generated in many gas furnaces doesn't do anything but cost you money. Most of the energy from the burning fuel heats the combustion air instead of the work load. When heat and fuel dollars sneak out through your stack, each load costs more to process than it should.



By combining Bayonet-Ultra Recuperators with ThermThief Burners, you can be assured of matched-performance components that will provide your company with maximum fuel savings and system efficiency.

**Example:** 800°F preheat from 1900°F flue gas delivers 24% fuel savings.

Pre-Heat Combustion Air Temperature (°F)

	400	600	700	800
700	8	12	--	--
800	8	12	14	--
900	8	13	15	17
1000	9	13	15	17
1100	9	14	16	18
1200	9	14	16	19
1300	10	15	17	19
1400	10	15	18	20
1500	10	16	18	21
1600	11	16	19	21
1700	11	17	20	22
1800	12	18	21	23
1900	13	19	22	24
2000	13	20	23	26
2100	14	21	24	27

Flue Gas Exit Temperature (°F)

% Fuel Saved

**ECLIPSE**<sup>®</sup>  
Innovative Thermal Solutions  
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