



# BAYONET-ULTRA RECUPERATORS

## High Efficiency Heat Exchangers

*Exclusive multi-tube design delivers fuel savings up to 30%!*

### **A simple idea for compound savings**

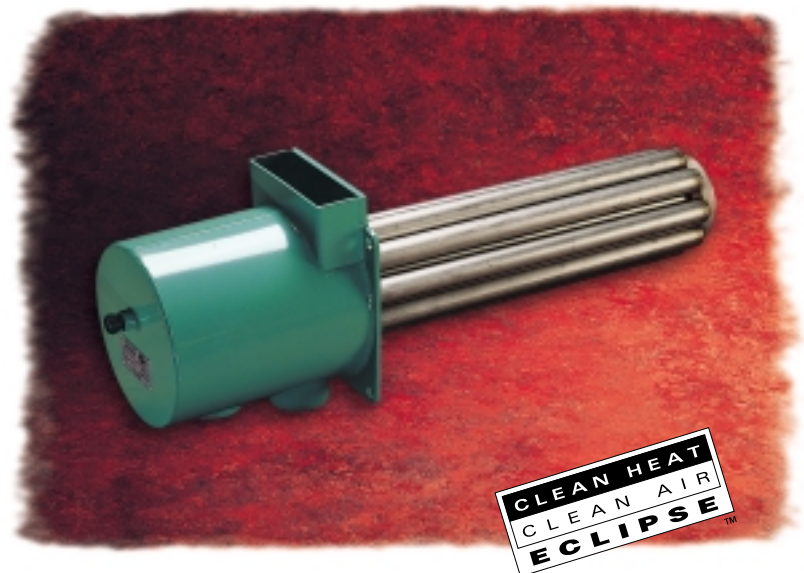
Suitable for use with exhaust streams up to 2100° F, Bayonet-Ultra recuperators are high efficiency heat exchangers designed to fit into the exhaust leg of single, U, O, W or Trident®-type radiant tubes. They're frequently paired with ThermThief burners to provide fuel savings up to 30%.

Conventional recuperators have only one heat transfer tube. Each Bayonet-Ultra contains multiple tubes to dramatically increase the heat transfer area while significantly decreasing the amount of fuel required to maintain required heat levels. Plus, an air cooled housing cools the work area.

### **Installation; retrofitting is easy**

Because versatility and adaptability are designed into the Bayonet-Ultra, new or retrofit installations rarely require special brickwork, radiant tube or exhaust modifications.

- Bayonet-Ultra recuperators are available in four sizes to fit radiant tubes with inside diameters from 3" to 8".
- A choice of pressure drops makes it



easy to match most existing blower systems.

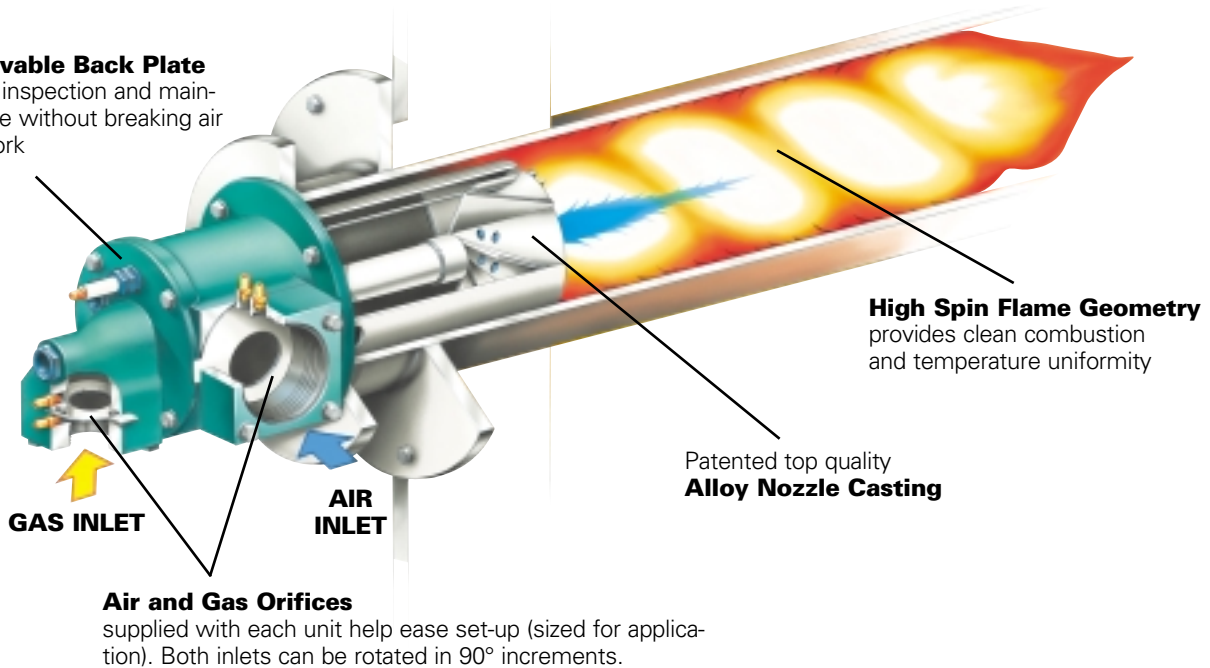
- Tube lengths can be adjusted to meet exact installation requirements.
- During installation, multiple-tube furnaces don't have to be shut down; only the tube being fitted.

Like all Eclipse combustion products, you can be confident that Bayonet-Ultra recuperators are unsurpassed in the industry for quality, safety, reliability and efficiency.

# ThermThief Burners

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

**Removable Back Plate**  
allows inspection and maintenance without breaking air pipework



**High Spin Flame Geometry**  
provides clean combustion and temperature uniformity

Patented top quality  
**Alloy Nozzle Casting**

**Air and Gas Orifices**  
supplied with each unit help ease set-up (sized for application). Both inlets can be rotated in 90° increments.

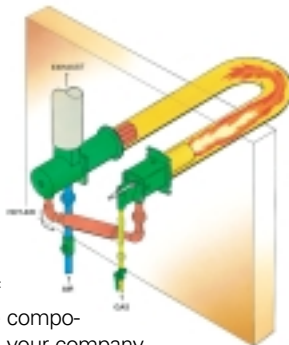
## ThermThief Burners & Bayonet-Ultra Recuperators: Impressive Individually...Unsurpassed as a Team

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.

Check out the chart on the right for the ThermThief System savings you can get at your shop.

**Example:** 900°F preheat from 1900°F flue gas delivers 27% fuel savings.



Pre-Heat Combustion Air Temperature (°F)

	400	600	700	800	900	1000
700	8	12	—	—	—	—
800	8	12	14	—	—	—
900	8	13	15	17	—	—
1000	9	13	15	17	19	—
1100	9	14	16	18	20	22
1200	9	14	16	19	21	23
1300	10	15	17	19	21	23
1400	10	15	18	20	22	24
1500	10	16	18	21	23	25
1600	11	16	19	21	24	26
1700	11	17	20	22	25	27
1800	12	18	21	23	26	28
1900	13	19	22	24	27	29
2000	13	20	23	26	28	31
2100	14	21	24	27	30	32

Flue Gas Exit Temperature (°F)

% Fuel Saved

**ECLIPSE™**  
Innovative Thermal Solutions

**Eclipse Combustion**

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