Innovative Combustion Solutions Worldwide

THERMTHIEF SYSTEMS

HIGH-EFFICIENCY RADIANT TUBE BURNERS AND RECUPERATORS

Eclipse Combustion
Eclipse TFB tube firing burners produce precise, uniform temperatures for better quality control and longer tube life.

More sizes...more Btu-power.
TFB burners are now designed to fire radiant and immersion tubes with inputs up to a remarkable 2 million Btu/hr. This makes Eclipse's advanced TFB technology available for an even greater variety of process applications:
- Model 30TFB - 25,000 to 300,000 Btu/hr.
- Model 75TFB - 25,000 to 750,000 Btu/hr.
- Model 200TFB - 50,000 to 2,000,000 Btu/hr.

All models give you the benefits of:
- Low NOx, low CO.
- Low excess air capacity 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.
- The added value of Eclipse expertise, parts and service wherever you are.

Versatile and adaptable.
Every TFB burner offers the convenience of multi-fuel capacity with the same nozzle, with either ambient air or pre-heated combustion air as a combustion air source. All are adaptable to straight, U, W, or Trident-type tube designs. Maximum system efficiency and savings are realized when TFB burners are matched to Eclipse Bayonet-Ultra recuperators.

Unique flame profile actually "scrubs" fire tubes clean.
TFB burners feature a specially engineered nozzle that introduces combustion air into the gas stream to create a more stable flame with outstanding temperature uniformity. Not only does this contribute to longer tube life, it also contributes to consistently uniform processing and product.

The unique shape of the TFB nozzle creates an intense flame with a corkscrew configuration and a vigorous, spinning action. The flame actually "scrubs" the inside of the fire tubes to remove the gas film boundary layer, thus increasing the effectiveness of the heat transfer.

Another exclusive: Adjustable flame length.
Only Eclipse TFB burners let you easily control flame length with a simple adjustment of the nozzle within the tube. Precisely "fitting" the flame to the tube also improves efficiency and tube life.

Easy to install, operate and service.
TFB burners are so service-friendly that most operations can be done without shutting down the furnace—an Eclipse exclusive!

Installation is uncomplicated. All TFB models easily adapt to your existing piping. Integrated gas/air metering orifices make setup a snap. Two peep sights provide clear visual access for flame verification and adjustment.

In the Eclipse tradition, long life and low-maintenance are engineered into the product design. TFB burners deliver a level of safety, operating efficiency and reliability that are unsurpassed in the industry.

Patent No. 4,673,350
Bayonet-Ultra recuperators, with Eclipse's exclusive multi-tube design, deliver fuel savings up to 30%!

A simple idea for compound savings.
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 can be used with exhaust streams up to 2100°F.

Conventional recuperators have only one heat transfer tube. Each "Ultra" contains multiple tubes. This not only dramatically increases the effective heat transfer area, it also dramatically decreases the amount of fuel needed to maintain required heat levels. Your fuel cost savings can be substantial.

It's easy to retrofit your system.
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 simple to match most existing blower systems. Tube lengths can be adjusted to meet your exact installation requirements.

Engineered like no other recuperative systems in the world.
Because versatility and adaptability are designed into the Bayonet-Ultra, new or retrofit installations rarely require special brickwork, radiant tube, or exhaust modifications. What's more, during installation, multiple-tube furnaces don't have to be shut down; only the tube being fitted. You save on installation costs and you don't lose valuable production time.

Like all Eclipse combustion products, you can be confident that Bayonet-Ultra recuperators are unsurpassed in the industry for quality, safety, reliability and efficiency.
FOR PROVIDING UNIFORM TEMPERATURE, HIGH EFFICIENCY, AND GREATER FUEL SAVINGS IN BOTH NEW AND RETROFIT APPLICATIONS.

TFB Burners and 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.

Eclipse ThermThief Systems feature matched-performance components...burners and recuperators engineered for superior performance in every installation. Maximum possible savings and efficiency are achieved when TFB tube firing burners are used in conjunction with Bayonet-Ultra recuperators.

The ThermThief family of heat retention products brings you significant savings.

Example: 900°F preheat from 1900°F flue gas delivers 27% fuel savings. Check the chart for the savings ThermThief can generate in your shop.

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TFB BURNERS AND BAYONET-ULTRA RECUPERATOR

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

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

Air Cooled Housing increases pre-heat while helping cool work area.

High Spin Flame Geometry provides clean combustion and temperature uniformity.

Patented top quality Alloy Nozzle Casting.

Threaded Inlet and Outlets for ease of installation.

Stainless Steel Adapter Flanges are manufactured to suit each application.
Since 1908, Eclipse has been dedicated to “doing it better.” That means analysis, specification, design, fabrication, installation, maintenance and repair service. The result? We can confidently say that nobody’s products are better, nobody’s application knowledge is greater, nobody’s support system is more comprehensive.

When considering a supplier for your next combustion need, we suggest that you talk with others as well as Eclipse. Only then can you fully know the important added-value benefits built into Eclipse products and services... benefits that can contribute to a more profitable operation year after year after year.

For assistance with your next combustion requirement, contact your local Eclipse sales office.

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