



**EXOTHERMICS, INC.**

**World Class Heat Exchangers**

# Tubular Heat Recuperators

Exothermics Tubular Heat Recuperators (THR) are air-to-air heat recovery units that effectively reclaim heat from catalytic incinerators, furnaces, thermal oxidizers and many other high temperature process and environmental applications.

But that's just the beginning. They also help you lower energy costs, easily and effectively control process air temperatures and reclaim a fast return on investment.

No other company manufactures a more effective Tubular Heat Recuperator than Exothermics. Our units are installed in hundreds of sites around the world, and we are quickly becoming the preferred choice for high temperature heat recovery equipment. Here's why:

## We Can Build What You Need

No matter how challenging the application, Exothermics has the ability to meet your needs. Our THR units can process airstreams with temperatures up to 1,600°F and volumes to 50,000 SCFM. We have experience in designing heat recovery units across a wide range of temperatures, airflows and applications, including gas fired boilers, curing and paint bake ovens, kilns, combustion preheat systems, thermal and catalytic incinerators, and many others.

## Custom Designed For Your Application

At Exothermics, the heat recovery requirements and environments are different for every customer. So, to ensure that our THR's deliver superior performance, regardless of the application, we custom engineer each and every unit from the ground up.

We start with the design and engineering criteria you provide: the general application, hot gas and process airstream temperatures, airstream volumes, hours of operation, fuel costs, the desired heat recovery and other input.

Then using our own sophisticated and highly refined software, we computer-design the unit to meet your specific requirements.

That's followed up by extensive consultation with you after you receive our engineering data on design, effectiveness, preheat temperature, hourly heat recovery, projected energy savings and more. Only after we know the design will meet or exceed your performance criteria do we begin construction.

We also maintain complete research and test facilities where we perform feasibility studies and prove designs, so problems are eliminated before they reach your facility.

**ISO 9001 Registered Quality System**



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# Performance: Superior By Design

Our Tubular Heat Recuperators are accepted and endorsed worldwide because they simply perform better. Features include:

## Boundary Layer Breakdown

Exothermics Tubular Heat Recuperators have a proprietary tubular core design in which the placement of the heat recovery tubes assures a breakdown of air boundary layers in and around the tubes. The design creates a turbulent movement of the hot gas and process airstreams, resulting in more efficient heat transfer and optimum heat recovery.

## Multi-Pass Designs

Crossflow and multiple pass designs are available. Multiple pass designs are used when the application requires greater effectiveness. Units can be manufactured so that the multiple passes are on the shell side, where the gas stream passes over the tubes

several times before exiting the recuperator. Other applications may require a multiple tube pass design.

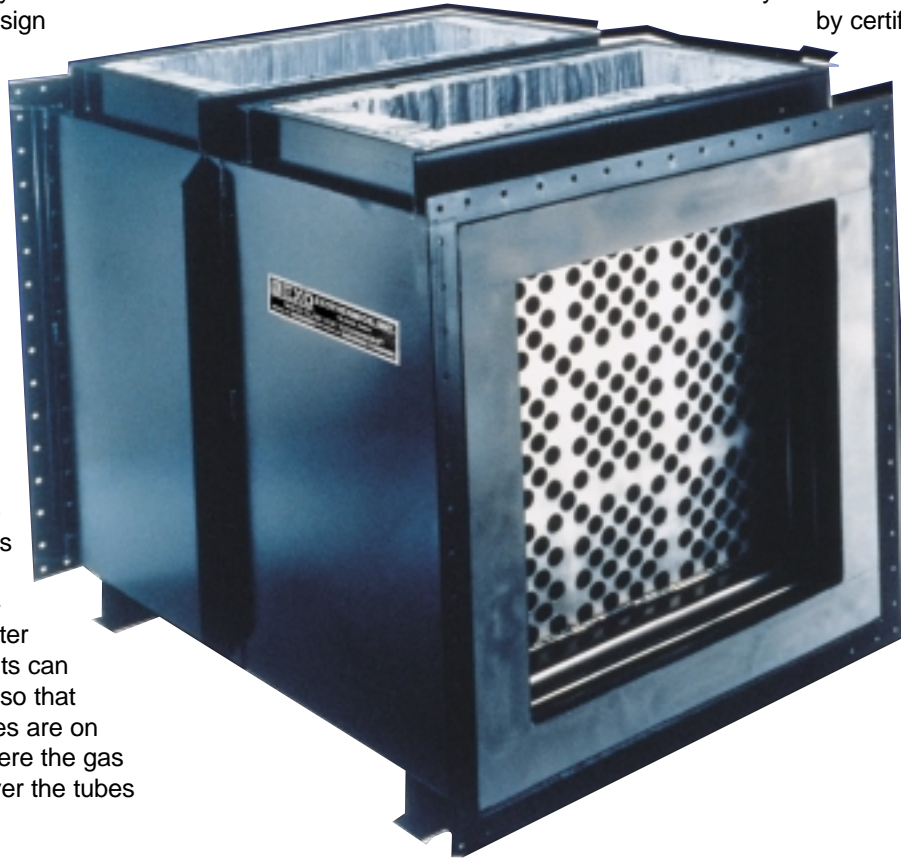
## Insulation

Various options are available. Our Tubular Heat Recuperators can be ordered without insulation or with external insulation when a hot flange connection is required. Where cold

flange connections are involved, the unit is designed with internal ceramic fiber insulation.

## Rugged Construction

Exothermics Tubular Heat Recuperators are all welded assemblies constructed from stainless steel or other high temperature alloys. Each unit is custom engineered, then carefully fabricated and quality tested by certified welders and experienced craftsmen. Where required, a mechanism for accommodating thermal expansion is provided. And because our tubular heat recuperators are of all welded construction, internal cross contamination is virtually eliminated.



  
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**Exothermics, Inc.**  
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