THM TULSA HEATERS MIDSTREAM

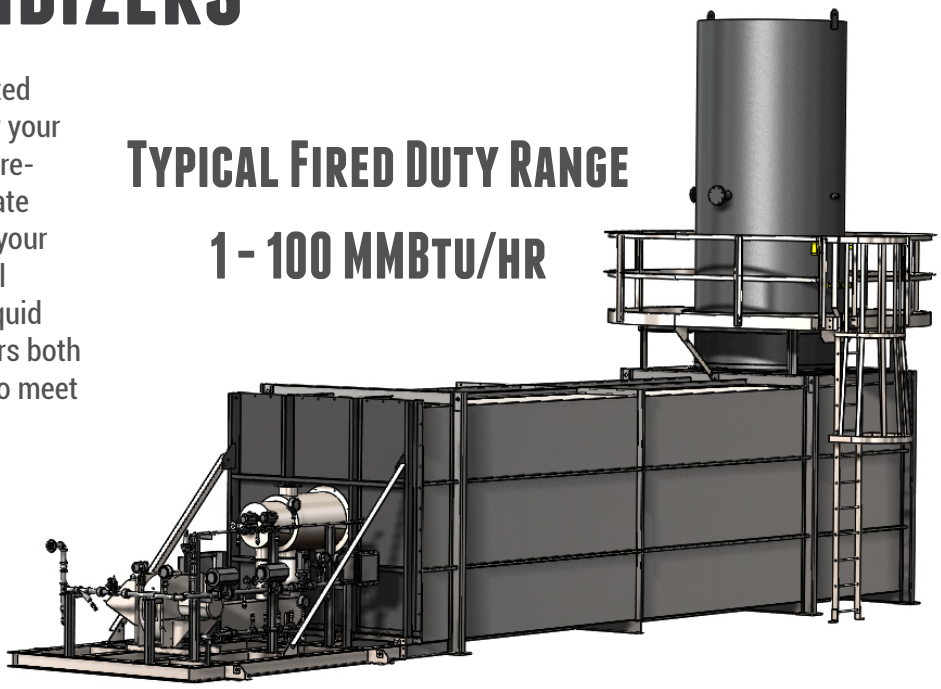
Thermal Oxidizer Line

/ Thermal Oxidizers

The THM Thermal Oxidizer line is created to provide a simple, robust solution for your incineration needs. Using an array of pre-engineered components, THM can create custom designed packages that meet your specific needs. Our VCU line of thermal oxidizers is designed to handle both liquid and gas waste streams. THM also offers both direct-fired and recuperative designs to meet your project needs.

Typical Fired Duty Range

1 - 100 MMBtu/hr



Typical waste streams for our VCU line of thermal oxidizers include:

- Acid Gas Residue
- Flash Gas Residue
- Sulfur Compounds (H2S, others)
- Carbon Monoxide
- Hydrocarbons
- BTEX

Common waste heat recovery options include:

- Heat medium (for hot oil system)
- Steam
- Air Pre-Heat
- Waste Pre-Heat

THM configures the burner and waste injection arrangement to minimize fuel consumption. Burner designs are supplied to allow the waste streams themselves to provide the heat input necessary to produce waste destruction temperatures.

Light weight refractories, including ceramic fiber or light weight castables, are used to allow for rapid heat up times. When ceramic fiber is utilized, an internal acid protection coating is used for corrosion protection on the combustion chamber walls.

Modular Solutions

Using modular skid designs help to minimize field erection time and labor. The size and weight of each skid will be maximized (up to the purchaser's shipping constraints) to minimize the quantity of skids. Each skid also has lifting lugs suitable for safe handling and erection. THM's standard practice is to maximize shop fabrication and assembly. This practice consistently yields the lowest installed cost to the owner.

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- THM evaluates each waste stream composition to ensure that burner stability, waste destruction and NOx reduction are fully optimized.
- The operating temperature is set to achieve complete destruction of the wast stream, but not so high that unecessary NOx is produced, or unecessary fuel is used. Too high design temperatures can also result in high cost of refractory linings. The right balance between waste destruction and offsetting considerations must be taken into account.
- Another key element for waste destruction is residence time at temperature. THM's thermal oxidizer combustion chamber volumes are sized to achieve the proper and sufficient residence time for complete combustion of the specified waste stream(s).
- For exothermic reactions/streams, quench air is typically used (and regulated) to maintain temperatures in the proper range for waste destruction. Other quench mediums, such as waste water or inert gas streams, can be used if they are available and make economic sense.

What Are People Saying?

"Tulsa Heaters Midstream helps us deliver value to our customers by providing high quality packages at a competitive price. Their team is very responsive and their projects have been on time, which is critically important to my company and our customers."

- Process Engineer

/ BMS Skid Package

With inlet piping from 1" to 6" NPS, THM has a Burner Management System package to handle all heat releases in the Thermal Oxidizer range.

- BMS package is rack mounted for quick and easy installation. In most cases, the skid is attached to the unit prior to shipment.
- Standard packages available, with options to meet customer and project specifications.
- Pre-commissioning and start-up assistance available for all projects to ensure that your project has a successful start.
- Ability to work within multiple codes - NFPA, ATEX, NEMA, IEC, CSA, UL
- Gas and oil firing options available

Training: Tulsa Heaters Midstream offers several opportunities for training. Each year, we offer a Heater School for owners and operators at our facility in Tulsa, OK. Additional on-site training is available upon request.

TULSA HEATERS MIDSTREAM

SHO Heaters

Custom engineered heaters commonly used in gas plants, refineries, power plants and other applications.

Typical services for SHO heaters include:

- Hot oil heater
- Regen gas heater

HydroFlux Heaters

These indirect fired heaters, also known as “bath heaters,” have been used in gas plants, pipelines, power plants and other applications.

Typical services for HydroFlux heaters include:

- Line heater
- Crude oil heater
- Gas vaporization
- Gas dew point heating
- Condensate stabilizing

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