



Process CombustionTM Ltd.

www.process-combustion.co.uk



Thermal Oxidisers

**Direct Fired, Recuperative,
Catalytic and
Regenerative Systems
For Air Pollution Control**



**System Design and Build
Project Management
Installation
Commissioning,
Training, Service
and Support**



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DIRECT FIRED THERMAL OXIDISERS

Process CombustionTM's direct fired thermal oxidisers can treat very high concentrations of volatile organic compounds (VOC's) in waste gas and waste liquid streams safely and effectively. The waste streams, in some cases, can be injected through the burner system and be used as a fuel. Additional energy saving equipment such as waste heat boilers or secondary heat recovery systems can be added to recover heat back to your process.



Advantages:

- Can handle very high VOC concentrations in waste gas and liquid streams.
- Extremely high VOC's destruction efficiency capability - up to 99.95%.
- Can react quickly to high peak concentrations.
- Can be designed to provide constant heat recovery back to your process.
- Advanced control system design.



Overview:

Direct fired thermal oxidisers produced by Process Combustion Ltd are most effective when there is a high calorific value waste gas or liquid stream that needs to be treated. Process Combustion Ltd can design and build these units to help meet the most stringent requirements of the European Solvent Emissions Directive (SED) and the United Kingdom Waste Incineration Directive (WID).

RECUPERATIVE THERMAL OXIDISERS

Process CombustionTM's range of recuperative oxidisers can be designed with a very high destruction efficiency capability combined with integral heat recovery systems to help reduce operational cost. Systems are supplied with a primary heat exchanger to heat the incoming air stream. Additional secondary heat recovery systems can be installed to heat hot oil, water or air required for dryers, ovens or space heating.



Advantages:

- Can handle low to high VOC concentrations.
- Very high VOC destruction efficiency capability - up to 99.5%.
- Up to 70% primary heat recovery capability.
- Secondary heat recovery can be provided back to your process.
- Advanced control system design.



Overview:

Recuperative thermal oxidisers produced by Process Combustion Ltd can handle varying solvent concentrations. The high destruction efficiency capability means that they can achieve extremely low outlet emissions. Primary heat recovery enables the system to be energy efficient at low inlet concentration levels. The exhaust temperature of these units is ideal to heat hot oil or provide hot air for ovens or dryers. These systems can be integrated to help recover and provide the maximum amount of heat back to your process.



Variety of Design Options and Applications

CATALYTIC THERMAL OXIDISERS

Process Combustion™'s catalytic thermal oxidisers operate at significantly lower temperatures than equivalent thermal systems. With the ever increasing cost of fuel, catalytic oxidation systems can offer a cost effective, energy efficient solution to your air pollution needs.

Advantages:

- Energy efficient at low VOC concentrations.
- Very high VOC destruction efficiency capability - up to 99.5%.
- Up to 70% primary heat recovery capability.
- Secondary heat recovery can be installed to heat water or air.
- Lower fuel costs compared to other thermal oxidiser systems.
- Low capital costs due to reduced reaction chamber size.
- Compact and light, reduces space and civil requirements.
- Reduced start up time and flexible in operation.
- Skid mounted for minimum installation time and cost.
- Advanced control system design.



Overview:

Catalytic thermal oxidisers produced by Process Combustion Ltd require the process gas stream to be free from particulate, catalyst poisons and tarry materials that could mask the catalyst. Process Combustion Ltd engineers can select from several catalyst types to help maximise the removal efficiency of the VOC's and help improve the life expectancy of the catalyst housed within the unit.



REGENERATIVE THERMAL OXIDISERS

Process Combustion™'s regenerative thermal oxidisers (RTO's) can offer very high destruction efficiency of VOC's combined with high energy efficiency. This high energy efficiency enables the unit to operate at very little or zero fuel input. Where the heat contribution of the VOC's is significant, the RTO can release the excess energy and make it available for secondary heat recovery.

Advantages:

- Can handle low to high VOC concentrations.
- Very high VOC destruction efficiency capability - up to 99.5%.
- Up to 96% primary heat recovery capability.
- Secondary heat recovery can be installed to heat hot oil, water or air.
- Extremely low fuel costs, even at low solvent concentrations.
- Advanced control system design.

Overview:

Process Combustion Ltd can offer a range of RTO's. From low cost 2 canister packaged units that come to site completely containerised to bespoke large multi canister systems with advanced features such as on line bake out and secondary heat recovery.



The performance of the equipment described in this document will vary depending on the particular design and application.

Thermal Oxidisers



For a Design & Estimate, Contact
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INVESTOR IN PEOPLE



Reg. No. 34912



Installation Code and Annual Inspections: All installation and service of PROCESS COMBUSTION™ equipment must be performed by a contractor qualified in the installation and service of equipment sold and supplied by Process Combustion Ltd and conform to all requirements set forth in the Process Combustion Ltd manuals and all applicable governmental authorities pertaining to the installation, service and operation of the equipment. To help facilitate optimum performance and safety, Process Combustion Ltd recommends that a qualified contractor conduct, at a minimum, annual inspections of your PROCESS COMBUSTION™ equipment and perform service where necessary, using only replacement parts sold and supplied by Process Combustion Ltd.

This document is intended to assist licensed professionals in the exercise of their professional judgment.

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