

Thermal Oxidisers

Technology for a sustainable future

Thermal oxidation is a well-established method of treatment of contaminated process gases to meet IED (2010/75/EU) emission targets.

ERG offer systems to match project requirements including:

- After Burners / Residence Chambers
- Pyrolysis Chambers $T > 650\text{ }^{\circ}\text{C}$
- Precombustion Chambers $T > 850\text{ }^{\circ}\text{C}$
- Direct fired oxidation up to 100% DRE (destruction removal efficiency) (alternative methods of heat recovery available)
- Recuperative thermal oxidation $> 99\%$ DRE and 75% Heat Recovery
- Regenerative thermal oxidation 98% DRE and 95% Heat Recovery
- Cooling systems so that ambient $<$ flue gas $T >$ dew point $< 850\text{ }^{\circ}\text{C}$
- Post combustion NO_x abatement systems

ERG systems offer the following features:

- Solid, Sludge, Liquid (aqueous / organic) and gaseous stream thermal destruction
- Turndown capability up to 5:1 in ratio (out of ratio 10:1)
- Process guarantees to cover TOC, CO, dust, dioxin and NO_x emissions
- Burner designs that use the stream as combustion air
- Gas or liquid fuel fired system
- Amine, halogen and sulphurous hydrocarbon destruction
- Integrated systems for flue gas pollutant abatement

ERG designs its thermal oxidation systems for maximum destruction efficiency (DRE) by ensuring:



- Homogeneous and uniform distribution of the stream contaminants in the oxidation chamber
- Oxygen control to achieve 6% excess O₂ in the flue gas
- Heat recovery or addition of fuel to raise the stream to 750–1100 °C

Compliance with current and global engineering standards:

- EN 746-1 Common Safety Requirements for Industrial Thermo-processing Equipment
- EN 746-2 Safety Requirements for Combustion and Fuel Handling Equipment
- EN 298 Automatic Gas Burner Control Systems
- NFPA 82 Incinerators
- NFPA 86 Ovens and Furnaces

