

# 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  $\text{NO}_x$  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  $\text{NO}_x$  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  $\text{O}_2$  in the flue gas
- Heat recovery or addition of fuel to raise the stream to  $750 - 1100\text{ }^{\circ}\text{C}$

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

