Thermal Oxidizer Systems

MOST COMMON CHOICES

- Regenerative Thermal Oxidizer (RTO)
- Direct Fired Thermal Oxidizer (DFTO)
  - Catalytic Thermal Oxidizer
  - Recuperative Thermal Oxidizer
- Steam Generating Thermal Oxidizer (SGTO)
Direct Fired Thermal Oxidizer

- Ideal for very high solvent emissions
  - (self-sustain)
  - VOC concentration up to 50% LEL
- Destruction rate 99%+
- Zero energy recovery
- Depending on solvent loading could be high energy user
Recuperative Thermal Oxidizer

- VOC concentrations 10-35% LEL
- Moderate to high solvent emissions
- Destruction Efficiency – 99%+
- Shell & tube Heat Exchanger with thermal effectiveness up to 70%
- High operating if <15% LEL solvent load
Regenerative Thermal Oxidizer (RTO)

ENERGY-EFFICIENT SOLUTION

• Dilute waste gasses
• Destruction: 95-99% (1400-1500°F Operating Temp)
• Thermal Efficiency up to 97% (ceramic media HX)
• Very low operating costs
• Not designed for high solvent loading (due to high thermal %)
Regenerative Thermal Oxidizer (RTO)

ENERGY-EFFICIENT SOLUTION

In-House Engineering & Fabrication
Regenerative Thermal Oxidizer (RTO)

UNIQUE DESIGN FEATURES

- Heat recovery as high in excess of 97%
- VOC destruction efficiency up to 99%
- High flow & VOC concentrations of up to 25% of the Lower Explosive Limit (LEL)
- Varying solvent mixtures and/or varying exhaust air volumes running on the same production line
- Reliable poppet valve design achieves 99% destruction without puff chamber
- Multiple chamber systems
- User friendly design for rapid installation & ease of maintenance
- State-of-the-art RTO control system programmable logic (PLC) with data recorder & remote access
- Variable frequency drive (VFD) for reduced electrical consumption
- Integrated VPN for remote troubleshooting & view of real time operations
- Low NOx burners or multiple burners available
- Self-sustaining operation for many applications
- Small equipment & carbon footprint
- 100% compliance track record
Catalytic Thermal Oxidizers

- Dilute Waste Gasses
- Destruction: 95-99%, (700-800°F operating temp)
- Thermal efficiencies of 50 to 65% (Metal gas to gas Heat Exchanger)
- Catalyst Subject to poisoning, sintering, masking
- Expensive to replace - Catalyst
- Not recommended for changing waste gas emissions
Steam Generating Thermal Oxidizers

- Steam Generated with Waste Heat
- VOC contributes to fuel reduction
- TYP 70% efficient
The Ship & Shore Advantage

COMPLETE SOURCE FOR ENVIRONMENTAL & ENERGY SOLUTIONS

- Equipment is Manufactured in the USA.
- Complete In-House Engineering Team and Disciplines.
- In-House Project Engineer Manages your Project.
- 24/7 Factory-Trained Service Available by Telephone.
- Standard and Extended Warranty on all Manufactured Systems.
- Installation, Commissioning and Aftermarket Service Provided by Expertly Trained Personnel.
- State-of-the-Art RTO Control Systems with the Newest, User Friendly HMI/PLC.
- Fully Functional with Remote Access and Integrated Digital Data Reports.
- To Date S&SE has Assisted Clients in Receiving over 5.5 Million Dollars in Utility Cash Rebates and Incentives for Energy Efficiency Projects.
- Our Engineers have been Recognized and Called as Expert Witnesses to Testify Before the AQMD, EPA and other Regulatory Authorities.
- Equipment is Pre-tested, Pre-piped, Pre-wired and Skid-mounted to Minimize Installation Time and Expense.
- Ship & Shore Environmental is Proud of our 100% Compliance and Success Rate on all Projects.