



Thermal Oxidizer Specification Sheet

Name _____ Title _____ Phone _____
 Company _____ Street _____ Fax _____
 City _____ State _____ Zip _____
 Project Site _____ Elevation _____ Date _____
 Bid Due Date _____ Expected Order Date _____ e-mail _____

WASTE INFORMATION

Flow: _____ Temperature: _____ Pressure: _____

Composition:	Component	Rate	Viscosity
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

Total _____

Continuous or Intermittent? _____
 Peak Flow _____
 Minimum Flow _____

UTILITY INFORMATION

Auxiliary Fuel for Start-Up: Natural Gas Oil
 Pressure _____ Type _____ Pressure _____

Atomization Media Steam Air
 Pressure _____ Pressure _____

Power Characteristics _____ Volts _____ Phase _____ Cycle

Area Classification _____

DESIGN REQUIREMENTS

Destruction Removal Efficiency Required _____ %

Thermal Oxidizer Specification Sheet continued

Emission Limit in Stack Gas (NO_x, SO_x Cl, etc.) _____

Minimum Stack Height _____

Heat Recovery (Preheat/Boiler) Desired? Yes No Duty _____

Plot Limitations _____

Project Schedule: Permit Application Date _____
Delivery Date _____
Start-Up Date _____
Compliance Date _____

Special Design Considerations: (particulate loading, area classification, CEM requirement, etc.) _____

INCINERATION SYSTEM DESIGN QUESTIONS

Zink needs information in three (3) areas in order to begin a process design. Please answer the following questions so we can provide an accurate solution to your emission control problem. The accuracy of our design will reflect the quality of the information supplied. In certain cases, some of the information may not be available. If information is omitted or unknown, a conceptual design will be completed using "safety factors".

WASTE INFORMATION

1. **NUMBER OF WASTE STREAMS.** How many waste streams will be treated?
2. **FLOW RATE OF EACH WASTE STREAM (LB/HR, SCFM, GPM, ETC.).** Operating information on each waste stream is important. Can the flow rates go to zero at times? Do flow rates change fast, slow or not at all?
3. **TEMPERATURE AND PRESSURE OF EACH WASTE STREAM.** If the waste is a liquid, viscosity information is also required.
4. **COMPOSITION OF EACH WASTE STREAM.** Information on any compound(s) critical to the operating permit is especially important. Are there any: metals, halogens (chlorine, fluorine, etc.), sulfur compounds, particulates? If the composition may vary, please estimate the degree and rate of variations. What is known about any corrosive properties?

UTILITY INFORMATION

1. **WHAT IS THE TEMPERATURE AND PRESSURE OF THE AUXILIARY FUEL?** Natural gas is the best and most common auxiliary fuel. However, fuel oil, propane or LPG can also be used. If fuel oil is used, can propane or LPG be provided as a fuel source for the pilot?
2. **IS COMPRESSED AIR OR STEAM AVAILABLE?** Liquid wastes often require compressed air or steam for atomization. What is the temperature and pressure of the air or steam available?
3. **IS ELECTRICAL POWER AVAILABLE?** Is 480 volts available for motors? Can 110 volts be supplied for the control system or does it need to be transformed from 480 volts? Other voltages?
4. **IS INSTRUMENT AIR AVAILABLE?** Control components or valve actuators are sometimes pneumatic. If instrument air is available what is its pressure and dew point temperature?
5. **IS A QUENCH MEDIUM AVAILABLE?** Some waste streams are exothermic (give off heat) when destroyed. These types of wastes require some type of medium to cool the reaction. Steam and water make the system smaller. Ambient air is less expensive, but it also makes the system larger. What type of quench medium should be used if necessary?

DESIGN REQUIREMENTS

1. **WHAT EMISSION LIMITS ARE REQUIRED?** This includes NO_x, HCl, particulate matter, stack opacity, etc. What per cent of the waste hydrocarbons must be destroyed? If a wet scrubber is needed to clean the flue gas, is a visible steam plume acceptable? Any limits on the blowdown concentration from wet scrubbers?
2. **WILL THE SYSTEM OPERATE CONTINUOUSLY OR INTERMITTENTLY?** Is the emission source a batch system? Will the system run twenty-four hours per day seven days a week or is it restarted daily or weekly?
3. **IS THERE A MINIMUM STACK HEIGHT?** This may be set by adjacent structures.
4. **ARE THERE ANY PLOT SPACE LIMITATIONS OR PREFERENCES?** Will the system be mounted on a roof or indoors?
5. **HOW IMPORTANT IS ENERGY CONSERVATION?** While energy conservation is important to everyone, it doesn't come free. What kind of payback is expected for the additional dollars invested in the system? If heat recovery by steam generation is desired, what steam pressure is required? Is preheat of either waste gas or combustion air expected?