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## Fume Incineration



In processes requiring downstream incinerators for fume destruction, Fives North American offers the versatile "flame grid." It is a gas-only burner that uses the oxygen in the fume stream as the oxidant in the combustion process.

Depending on the oxygen content of the fume stream, no additional combustion air is required, therefore, the efficiency of the system increases and the volume of the effluent decreases.

Burner design assures that all the fume stream passes through the flame envelope to maximize destruction of the volatiles. However, many of the constituents of the fume stream require longer retention times at temperatures to ensure complete destruction.

Overall system performance is dependent on the size and operating temperature of the downstream

incineration chamber. To further complicate matters, the NO<sub>x</sub> production of the system is also dependent on these same parameters. Therefore, where long retention time at high temperature enhances volatile destruction, it may also increase the formation of NO<sub>x</sub>.

Because of the variability of the fume streams, it is very difficult to provide general operating parameters for a fume incinerator. Each unit must be reviewed individually to assure that the incinerator design is adequate for the destruction process.

In many installations (especially UBC operations) minimizing NO<sub>x</sub> emissions from the burner is substantial but may not be sufficient when considering the emissions from the overall process. System design incorporating an LE or LEx burner may provide significant overall reduction in emissions.



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