



MEGTEC

# Clean Air Solutions for Incineration

Multi-Pollutant Emissions Control

Complete System Design

Single-Source Supply



# Single-Source Supply and Complete Solution

Dürr Megtec has the capability and experience to support your complex needs for emissions control. We have successfully executed more than 50 contracts in applications that include the incineration of sewage sludge, municipal, solid and hazardous wastes.

Our experience includes both wet and dry solutions for multi-pollutant emissions control in a single train. We offer commercially proven technologies for:

- Particulate Control
- Acid Gas Control
- Heavy Metals Removal
- NO<sub>x</sub> Control
- Acid Mist Removal
- Carbon Monoxide Destruction
- Mercury Control
- Dioxins/Furans Removal

Incineration processes, due to high-temperature reactions, convert waste into ash, flue gas, and heat. The industry is faced with increasingly stringent emissions limits, often for multiple pollutants.

Whether the pollutant is a chemical, sewage, biomass or municipal waste to be incinerated, Dürr Megtec offers a single-source supply and complete solution to meet today's emissions regulations with a combination of the following technologies.

## Venturi Scrubber

Dürr Megtec's venturi scrubber is designed to provide the low maintenance, high-efficiency performance needed for handling heavy loadings of abrasive, sticky, and difficult-to-handle particulate.

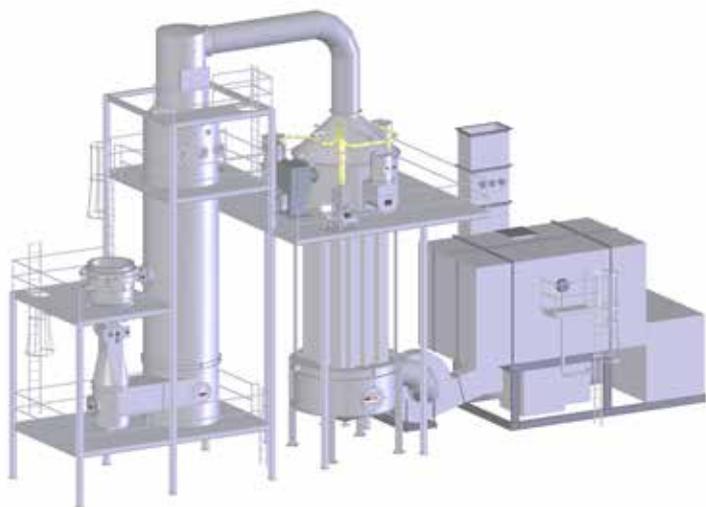
## NO<sub>x</sub> Control

Dürr Megtec offers industrial clients a proven and competitive suite of NO<sub>x</sub> reduction solutions. If you need to comply with stricter emission limits, we offer both dirty-side and clean-side selective catalytic reduction (SCR) solutions depending on the process suitability.

Our SNCR (selective non-catalytic reduction) technology utilizes Turbotak™ atomizing nozzles to deliver reliable NO<sub>x</sub> reduction performance within the available temperature windows in your process or combustion applications.

## Wet Acid Gas Absorbers

We offer a variety of proven designs specifically suited for high-efficiency removal of acid gases of high, medium, or low concentrations. Open spray tower, packed tower, or tray tower designs are available for achieving optimum sorbent utilization at affordable pressure drops.



## Semi-Dry Scrubber

Evaporative cooling techniques utilizing our semi-dry scrubbers are often the right solution when complying with zero-liquid discharge requirements for waste products. This scrubber can process large gas volumes and high acid gas concentrations.

Semi-dry acid gas scrubbers are often the solution of choice when available water supply is limited. Based on the inlet gas conditions, our dual-fluid nozzle design can be applied for semi-dry acid gas scrubbers.

## Wet Electrostatic Precipitators

The wet electrostatic precipitator (ESP) is ideal as a polishing device in an air pollution control system and effectively removes sub-micron particulate, heavy metals, acid mists and fumes that penetrate through the upstream equipment. Our wet ESPs provide reliable operation and require minimal maintenance, while helping to attain regulatory compliance.

## Dry Electrostatic Precipitators

Dry ESPs are well-proven solutions for collection of incinerator-generated particulate/ash from the flue gas at a low pressure drop. However, for multi-pollutant control requirements in the incineration industry, wet or dry acid gas scrubbers and attendant mercury and dioxins/furans solutions will be required downstream of ESPs.

## Regenerative Thermal Oxidation

The regenerative thermal oxidizer (RTO) system destroys carbon monoxide (CO) and other residual hydrocarbons. It combines high-temperature thermal oxidation with a regenerative heat exchanger to efficiently convert organic compounds to carbon dioxide and water vapor. The regenerative systems provided by Dürr Megtec offer both rotary and poppet valve technologies in a compact design, while achieving high destruction efficiencies.



*Wet ESP for Hazardous Waste Combustion*



*Regenerative Thermal Oxidizer*



High-Flow Adsorber

## High-Flow Adsorber

In some applications, dioxin/furan formation, following combustion of organics and the residual vapor phase mercury, can present emission compliance challenges. The high-flow adsorber is a proven capturing device, located before the exhaust stack, to meet the stringent requirements for mercury (Hg), dioxins and furans. The high-flow adsorber is essentially a fixed annular bed of activated carbon. The process gas effectively flows through a fixed bed of carbon that filters out the mercury and dioxin compounds to achieve reduced emissions. The replacement schedule for a carbon bed is typically between one to five years.



Pulse Jet Fabric Filter

## Pulse Jet Fabric Filters

Pulse jet fabric filters (PJFF) are an essential and proven component of a dry-waste discharge solution to the emission control problem in several incinerator applications. They are most suited for location after a semi-dry acid gas scrubber and offer for achieving high-efficiency particulate control. Often, activated carbon is injected ahead of the semi-dry scrubber or PJFF to achieve control of mercury and dioxin/furans.

## Complete System Design

Fully understanding industrial processes, combined with expert knowledge of multi-pollutant air emissions control technologies, enables Dürr Megtec to provide optimized technical designs. Reliable operations, help in achieving environmental compliance, reduced cost and the convenience of working with an industry leading single-source supplier are just a few of the benefits of working with Dürr Megtec.

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