

OBJECT INFORMATION

EEW ENERGY FROM WASTE

CONSTRUCTION OF A SEWAGE SLUDGE INCINERATION PLANT: SUSTAINABILITY THANKS TO RODA'S INNOVATIVE VENTILATION SOLUTION



EEW Energy from Waste operates the largest and most modern plant in Germany. With thirty years of experience in waste recycling and disposal, they lay the foundation for Lower Saxony's first mono-incineration plant. At the Helmstedt site, 160,000 tons of sewage sludge (525,000 tons of waste and residual materials) are to be incinerated to 15,000 tons of ash each year. The mono-incineration of sewage sludge enables a phosphorus recovery rate of over 80 percent from sewage sludge in downstream processes.

BRIEF DESCRIPTION

Location: EEW Energy from Waste GmbH Helmstedt
Project: Construction of a new incineration plant
Period: Year 2022
Products: 5 supply air louvres with warm air supply including sound-absorbing screens and bird protection, 5 supply air louvres without warm air supply including sound-absorbing screens and bird protection, 5 warm air admixtures for winter operation, 8 multi-purpose ventilators type MEGAPHÖNIX, 8 double flap ventilators type PHÖNIX as pure heat extraction surface.



**Jan Winkler,
Head of Operations Technology, EEW Energy from Waste GmbH**

„The ventilation solution from roda has exceeded our expectations. It has helped us to increase the efficiency of our mono-incineration plant and at the same time ensures the safety and longevity of our facilities. We appreciate roda for their professionalism, their tailored solutions and their outstanding service.”

EEW ENERGY FROM WASTE: PIONEERING WORK IN WASTE RECYCLING

The Challenge: Efficient and Safe Ventilation in a Demanding Industrial Environment

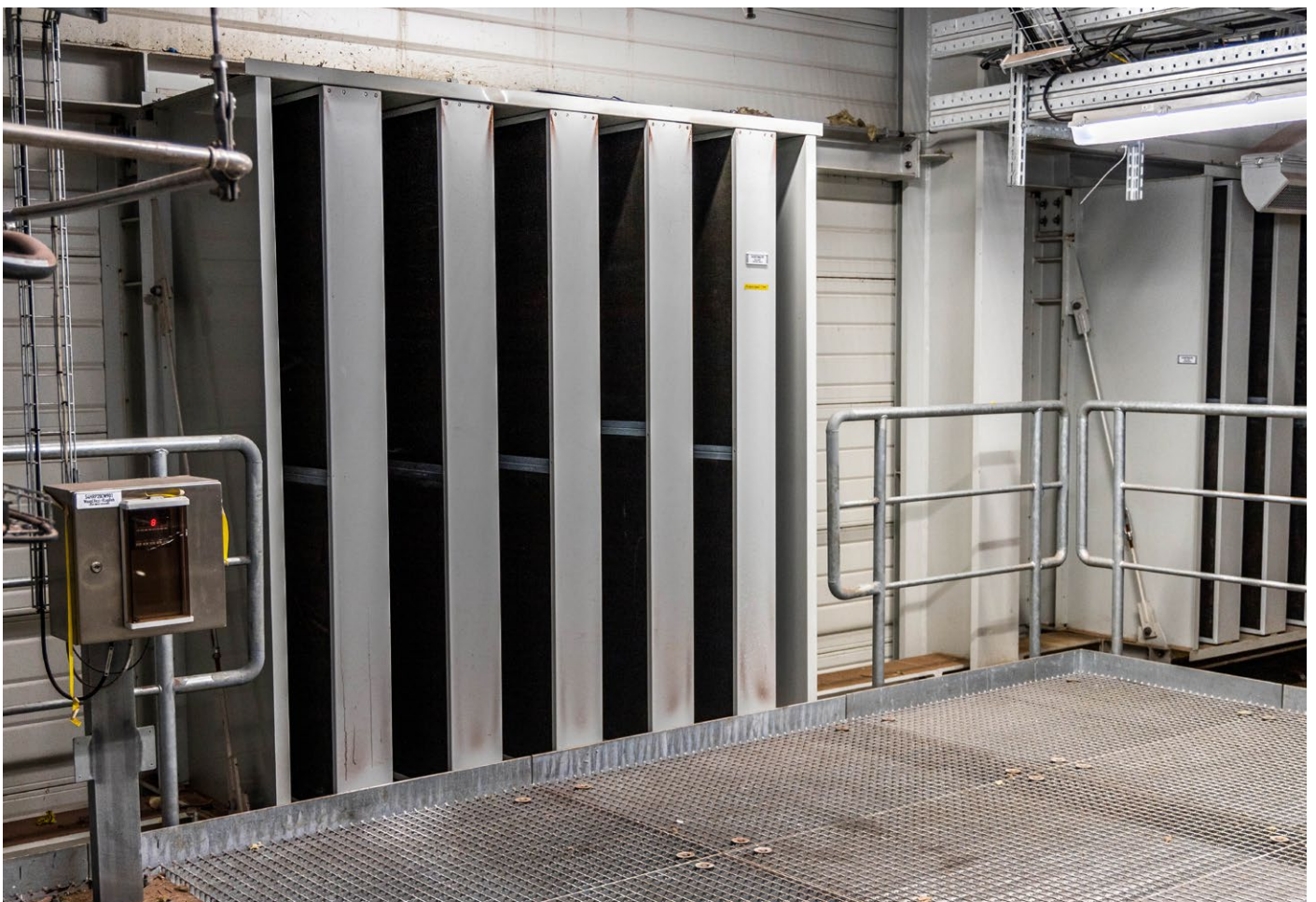
The incineration of sewage sludge requires sufficient fresh air supply in the boiler house. However, the heat output from the boiler house must be reliably dissipated. This is where roda's ventilation technology comes into play, ensuring that the temperature always remains between 6 - 40 °C to avoid malfunctions or damage to the facilities.

The Black Box: Automated Control for Optimal Performance and Efficiency

Our solution is a highly complex control system that operates in the background and can be easily operated by the user via a touch panel. The Black Box automates the control of all processes that run in the background and switch the devices on or off. Temperature sensors inside and outside monitor the temperature, while stored cases control the supply and exhaust air for summer and winter operation. The CO2 trigger also takes place via the Black Box, which activates emergency release stations in the hall. This system eliminates human error and increases the performance and efficiency of the plant.



Warm air mixing system to increase the supply air temperature in winter.



Silencer baffle to reduce noise pollution.

Efficiency and Performance: The Hallmark of roda

Our innovative ventilation solution ensures optimal air exchange in complex technical environments. This consists of ten supply air louvres with sound-absorbing screens and bird protection grilles, eight large multi-purpose ventilators of the MEGAPHÖNIX type and eight double-flap ventilators of the PHÖNIX type. Immediately behind the supply air openings is an area with fittings, pipelines and measuring points. To prevent this area from being affected by frost damage at low temperatures, we have developed a special warm air admixture system. This consists of five systems that have a pipe system suspension and an axial fan. When the supply air is cold (up to -10 °C and max. $16,000\text{m}^3/\text{h}$), these systems suck hot air from the ceiling (max. 40 °C) and blow it as a warm air mixture (max. $8,200\text{m}^3/\text{h}$, max. 40 °C) in front of the supply air opening. To ensure the longevity of our devices even under the demanding conditions in a boiler house, all devices are equipped with a C4 corrosion class coating. This coating makes the devices extremely resistant and durable.

Safety in Case of Fire

In the event of a fire, our ventilation solution reacts quickly and reliably: The ventilators switch off, the emergency sensors trigger and the smoke and heat extraction systems (RWA systems) open. In addition, eight fixed devices of the PHÖNIX type act as pure heat extraction surfaces (melttable surfaces) to meet the requirements of the fire protection concept.



Multi-purpose ventilator type MEGAPHÖNIX for air exchange independent of weather conditions.



Double flap ventilator MEGAPHÖNIX next to double flap ventilator PHÖNIX



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LAMILUX daylight systems!



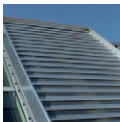
PHOENIX AND MEGAPHOENIX



FIREFIGHTER



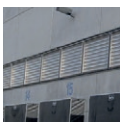
VENTURISMOKE VS1/VS2



SMOKEJET AND MULTIJET



SMOKE CURTAINS



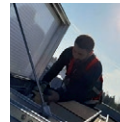
LOUVER WINDOWS



DAYLIGHT TECHNOLOGY



NATURAL AND MECHANICAL
VENTILATION



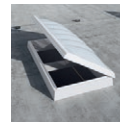
MAINTENANCE



RENOVATION



MIROTEC GLASS AND
METAL CONSTRUCTIONS



LAMILUX DAYLIGHT SYSTEMS

The technical data printed in this brochure was accurate when this brochure went to press and is subject to change without notice. Our technical specifications are based on calculations and supplier specifications, or have been determined by independent testing authorities within the scope of applicable standards.

Thermal transmission coefficients for our composite glazing were calculated using the finite element method with reference values in accordance with DIN EN 673 for insulated glass. Based on empirical values and specific characteristics of the plastics, a temperature vector of 15 K was defined as the vector between the outer surfaces of the material. Functional values refer to test specimens and the dimensions used in testing only. We cannot provide any further guarantees of technical values. This particularly applies to changes in installation locations, or if dimensions are re-measured on site.



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