

Äger

Transforming Food Production with Advanced Emission Reduction Technology

Case Study

○ Scrubber Systems



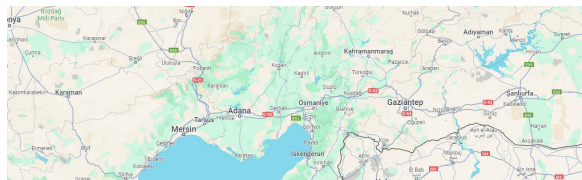
Revolutionizing Air Quality in Food Processing

Initial Operation and System Trials

A food production company wanted to eliminate the emissions of HCl from its processes and chemical storage, as well as SO₂ emissions resulting from the production of food raw materials.

In 2022, this food manufacturer first contacted Äager to reduce its production-derived emission levels to current standards. This initiative aimed to minimize environmental damage, protect employee health, and comply with national legal obligations.

Measurements made in collaboration with the company revealed an air flow of 2,700 m³/h containing 680 ppm of HCl. Additionally, process measurements detected 500 ppm of SO₂ vapor.



Navigating Environmental Challenges: A Food Producer's Commitment to Cleaner Production

Studies and Proposed Solution

Following these measurements, results were supported by computer simulations and laboratory studies; a two-stage Wet Pack Scrubber system was recommended for both chemical treatment and neutralization. A special solution was prepared to facilitate both processes simultaneously, optimizing chemical usage and saving space.

Engineering optimization for two different emissions suggested the installation of two wet packed scrubbers. This approach preserved the independence of the separate systems, reducing operational costs (chemicals, electricity, water) and saving space due to the units' sizes.



Implementing Effective Emission Solutions in the Food Industry

Implementation

After analyzing process emissions, the customer had concerns about the efficiency and continuity of the designed units.

To address these concerns, Äger committed to a 24/7 operational system and cyclically operating chemical storage tanks. These units' outputs were monitored monthly for three months by an accredited emission measurement company, ensuring continuous compliance with the guaranteed emission values.

Result

The food manufacturer's two drying ovens and four reactors have been connected to a scrubber unit that guarantees 99% emission cleaning. For two years now, the system has maintained consistent performance.

Emissions from chemical storage tanks are fully automated with sensors, PLC, and displays, allowing remote monitoring from the food producer's control room.

unit's emission data is continuously recorded, and chemical emissions are neutralized by 99% with the scrubber system.



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