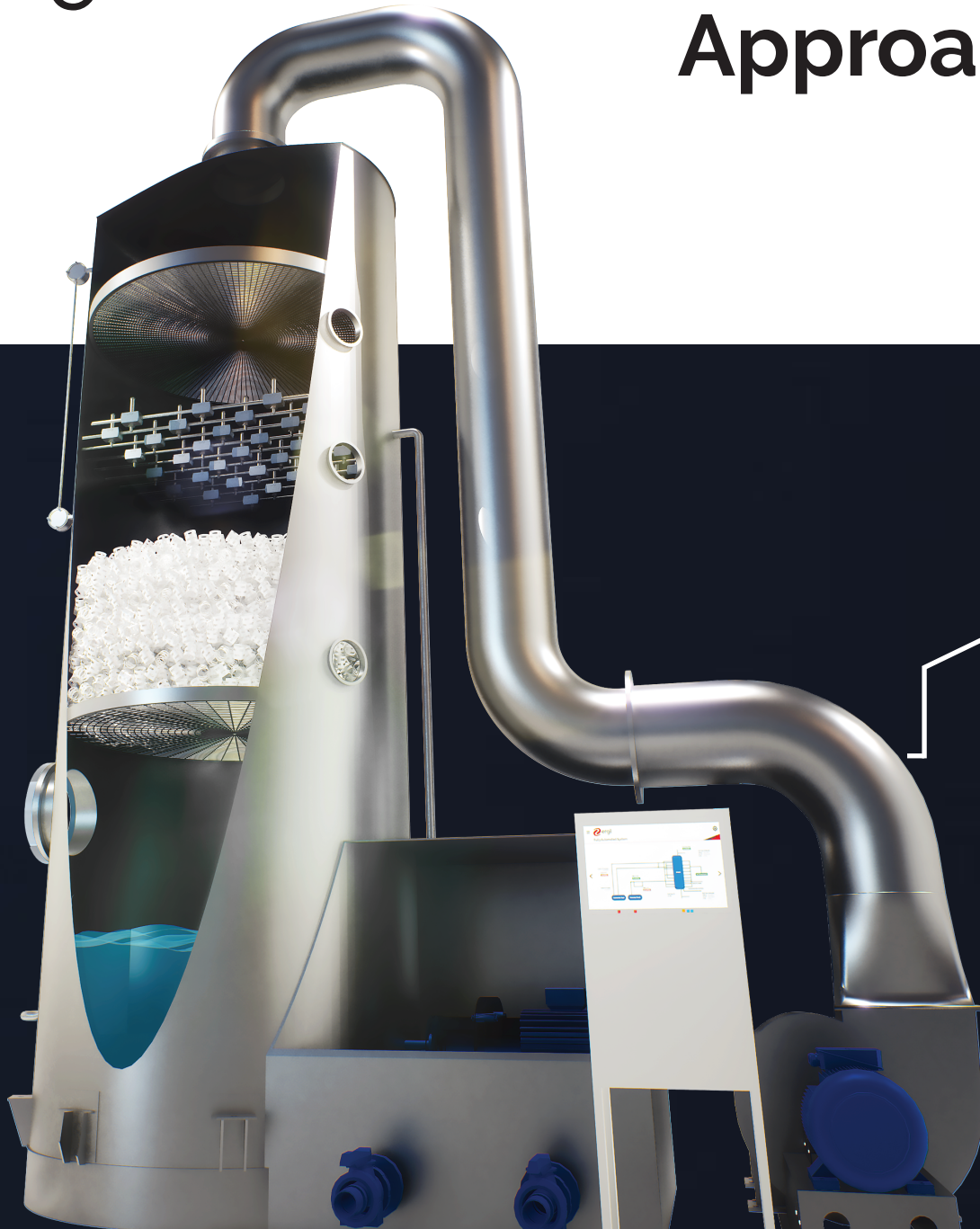


Äager

Fertilizer Company's Innovative Approach to NH₃ Emission Reduction

Case Study

Scrubber Systems

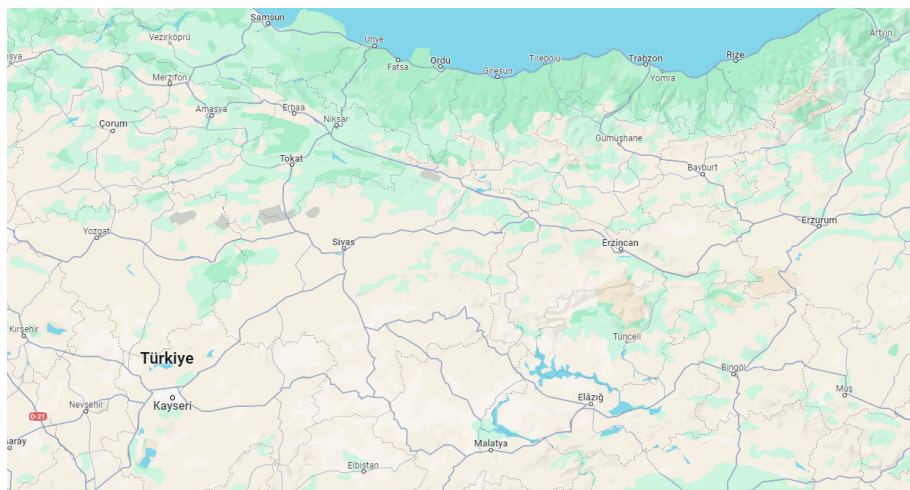


Achieving 99% NH3 Emission Reduction in Fertilizer Manufacturing

Initial Operation and System Trials

A fertilizer manufacturing company wanted to eliminate NH3 emissions originating from its chemical storage.

In 2022, this fertilizer manufacturer contacted Aager to reduce its production-related emission levels to meet current standards, aiming to minimize environmental damage, ensure employee health, and comply with national legal obligations. Following measurements and engineering studies conducted with the company, it was calculated that a 15,000 m³ storage tank would emit 5270 ppm of NH₃ due to climatic effects and operational uses.



Eco-Friendly Fertilizer Production: Overcoming NH₃ Emission Challenges

Studies and Proposed Solution

Computer simulations and laboratory studies suggested the installation of two 2-stage Wet Pack Scrubbers and one chemical reactor to treat the chemicals and reclaim the emitted emissions for the fertilizer producer. This approach aimed to eliminate emissions discharged into the atmosphere and recycle the waste back into the company's processes.

Implementation

After the process emissions analysis, the designed units were installed. Upon system activation, a cyclically operating chemical storage tank was monitored monthly for three months by an accredited emission measurement company, ensuring continuous compliance with the guaranteed emission values.



Leading the Way in Environmental Compliance

Result:

The fertilizer company's 15,000 m³ storage tank and reactor battery limit line have been connected to a scrubber unit, guaranteeing 99% emission cleaning.

The system has maintained consistent performance for two years. Emissions from the chemical storage tank are fully automated with sensors, PLC, and displays, allowing remote monitoring from the fertilizer producer's control room.

The cyclically operating unit's emission data is continuously recorded, with chemical emissions neutralized by 99% using the scrubber system. Additionally, the utilized reactor provides intermediate raw materials for the fertilizer manufacturer's process.



Äager GmbH

Germany Head Office + R&D + Sales

Herzogspitalstraße 24
Munich 80331
Germany
T: +49 89 9040 5200
W: www.aager.de
E: sales@aager.de

Azerbaijan Sales + Warehouse

Ahmad Racabli 222
Royal Plaza
5th floor, Suite 8
Baku, Azerbaijan AZ1106
T: +994 (12) 564 2256
E: sales@ergil.com

U.A.E. Sales + Warehouse

Jumeirah Lake Towers, X2 Tower 1906
P.O. Box: 123661 Dubai, U.A.E.
P : +971 4 450 8051
F: +971 4 450 8041
E: sales@ergil.com

Turkey Head Office + Sales

Ağaoğlu My Office 212
No: 3 B Blok /175
P.K 34218 Güneşli – Bağcılar
Istanbul / Turkey
T: +90 212 485 40 07
F: +90 212 485 40 42
W: www.ergil.com
E: sales@ergil.com

Turkey Factory + Engineering + R&D + Sales

Mersin Tarsus OSB.13.CD.NO:7
P.K: 33540 Mersin, Turkey
T: +90 324 676 44 04
F: +90 324 676 44 03



case study series

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