

AET SNCR DeNOx System

With the ongoing climate changes, emissions from combustion plants are going to be minimised. Current NO_x emission limits are also under pressure and new emission criteria are being implemented in Europe for new boilers as well as for existing boilers.

AET is an experienced manufacturer of boilers and Selective Non-Catalytic Reduction (SNCR) plants. AET has the knowledge of integrating these systems and can reduce NO_x emissions up to 85% with an AET SNCR DeNOx System.

New Legislation

In Europe, new legislation, in accordance with the IPPC Directive, impose new values that must be complied with in terms of reducing atmospheric emissions. Special attention is given to reducing NO_x emissions.

NO_x-emission criteria in the new Medium Combustion Plants (MCP) and Large Combustion Plants (LCP) are valid from 1 MW, and upwards. The required NO_x emission limit values can be lowered even further, in case EU limits for air quality are superseded.

The AET SNCR DeNOx System

The SNCR technology is a method used to reducing the NO_x emissions by injecting a reagent in the post combustion chamber, optimally at a temperature range of 850 - 1090 °C.

When buying an AET SCNR DeNOx System, you also get access to the know-how of AET employees, who have more than 30 years of design and hands-on experience with boilers fired with biomass, coal, oil, gas and waste.

An AET SNCR DeNOx System is both cost effective, highly efficient and has a high availability.

The investment for an AET SNCR DeNOx System is low compared to Selective Catalytic Reduction (SCR). Furthermore, an AET SNCR DeNOx System can often be installed within a few days, as the system is skid mounted in modules and thoroughly tested, resulting in an extremely high availability.

The AET SNCR DeNOx System is made from stainless steel, as the injection reagent can cause corrosion. Although this is more costly, it presents numerous benefits to the operating and maintenance team, as very



De Danske Gærfabrikker (DDG) reduced the NO_x emissions by approx. 50% by using AET SNCR DeNOx System.



At Tilbury Green Power the AET SNCR DeNOx System reduced the NO_x emissions by approx. 70%.

little wear and tear is seen.

Successful Implementation

Important parameters for successful implementation and a cost effective solution are:

- Injection nozzle: design and position
- Temperature at injection point(s)
- Boiler operation
- Fuel variation
- Boiler fouling
- Reaction time for media
- Reagent media
- Automation level.

At optimal process conditions, the AET SNCR DeNO_x System can reduce up to 85% of the NO_x emissions in biomass-fired and fossil fuel-fired boilers.

Flexible Scope of Supply

AET is flexible in the approach to scope of supply and a full turnkey AET SNCR DeNO_x System can include:

- Reducing agent storage tank
- Pump unit
- Mixing and dosing unit
- Piping
- Lances (levels, interaction)
- Nozzles (types, angling)
- On-line temperature measurement in furnace
- ChlorOut integration
- Emission measurement (NO_x, CO, NH₃)
- PLC control system
- SCADA integration
- CFD calculation
- Boiler calculation.

On the right hand side, you can see different configurations of the AET SNCR DeNO_x System.

For an existing boiler, an on-site test is recommended, which can include temperature measurement in the furnace and preliminary NO_x-reduction test with a test kit.

AET has a mobile SNCR test kit, to be used for testing in your boiler. With this unit, we can make a technical and environmental test at your site. The test can be made with short notice and will only take a few days. After this test, we are able to predict the emission reduction and the process behind it.

The on-site test can be supplemented by a CFD calculation as well as a boiler performance calculation in order to foresee furnace temperature at different loads, fuels etc.

[Reduction of NO_x emissions](#)

[Contact our Service Department to get assistance](#)



FunderMax reduced the NO_x emissions approx. 80% by using the AET SNCR DeNO_x System.

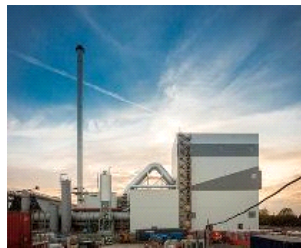
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The Biolacq Energies project, in Lacq, is a biomass-fired CHP plant of 54 MW, that utilises forestry wood, and clean, uncontaminated residues from wood processing.

[Read more about Biolacq](#)



Tilbury Green Power is a 125 MW waste wood-fired plant, which commenced operations in 2017.

[Read more about Tilbury Green Power](#)



JG Pears – Newark is a 42 MW MBM-fired cogeneration plant, which commenced operations in 2018.

[Read more about JG Pears - Newark](#)



Akuo Energy - CBN is a 63 MW wood-fired cogeneration plant, which commenced operations in early 2019.

[Read more about Akuo Energy - CBN](#)

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Zignago Power s.r.l.–successfully producing Green Energy in Italy

The 49 MW Zignago Biomass power plant in Italy, owned and managed by Zignago Power s.r.l., belonging to the Marzotto family empire, has since its installation in 2013 been running with a very high availability (98.8%). The plant utilises wood residues and agricultural waste such as straw, miscanthus and maize. [>Read more](#)



