HIGH QUALITY DE-NOx SYSTEMS

SNCR and SCR Technologies

This document may not be used for any purpose other than that for which prepared and supplied.
© 2010 EcoSprayTechnologies
SNCR De-NOx Systems

In SNCR Systems, either NH_{3} or Urea solutions are appropriately sprayed in the gas stream to be cleaned at high temperature (usually > 900 °C). The reagent converts NOx into N\textsubscript{2} and H\textsubscript{2}O vapor through fast enough reactions without the aid of any catalysts.

An optimal choice of the variables involved in the process, such as the injection temperature, the reagent distribution and mixing as well as the residence time, allow to achieve rather high removal performances (up to 60\%) without significant ammonia slip at stack.

Ecospray proprietary lances and nozzles gives an excellent spray distribution in all conditions.

The most advanced systems, like EcoSpray ones, are made up of several spraying stages positioned in different areas of the combustion chamber. This allow to work with the most favorable process conditions and achieve max. efficiency at both full load and in regulation.

Adjustment and dilution with water DEMI play also an important role in optimizing overall system.
Thanks to its vast experience in almost every spray liquids application, Ecospray has developed a multi-nozzle system able to reach the highest levels of distribution uniformity.

Ecospray has recently developed and introduced into the market its innovative Eco-Cer™ DeNOx Filter that installs a new type of ceramic filtering elements (Cerafil TK type).

These elements allow to work at temperatures > 400 °C and combine excellent dust removal efficiency along the time (emissions < 5 mg/Nm³) with terrific NOx removal performances, up to 95% efficiency and over, as well as for CO, VOC & Dioxins reduction.

Also in SCR Systems either NH₃ or Urea are sprayed in the gas stream but at relatively low temperatures (avg. 300-400 °C) because the conversion reaction is accelerated by using suitable catalysts. With SCR technology it is possible to easily reach over 90% NOx removal maintaining very low ammonia slip at the stack (< 5 mg/Nm³).

This document may not be used for any purpose other than that for which prepared and supplied. © 2010 EcoSprayTechnologies
CONTROL & DOSING SYSTEM

All Ecospray regulating and dosing systems are controlled by PLC. We can supply various PLC brands according to each customer’s specific requirements. All our PLC’s are developed and programmed directly in-house. Our regulating and dosing systems can utilize either NH₃ or Urea solutions.

Software main loops include:
- Gas temperature control
- NOx emission control
- Reagent’s dosage control
- Dilution control
- Spray quality control
- Ammonia slip control

A graphic touch screen display is installed on the control box. It helps to easily set up all regulations and monitor the process variables. It is also possible to transfer a.m. variables through profibus or ethernet cards.

Skids can be realized in various high quality materials like stainless steel and or plastic according to their use and positioning.
DeNOx EQUIPMENTS

Scheme of the lance / nozzle / flow distributor group
(distributor is positioned up-stream the urea injection)

Integrated instrumentation on each lance
Eco Spray Technologies s.r.l.
Via Gandini 9/9a
27058 Voghera (PV) – ITALY
Tel. (39) 0383 640588 - Fax (39) 0383 360441
E-mail info@ecospray.eu
www.ecospray.eu

© Eco Spray Technologies 2010