

Air Quality Control Systems

> Particulate Removal System

- Dry Electrostatic Precipitator
- Wet Electrostatic Precipitator
- Bag Filter
- Ash Handling System
- Tunnel ESP
- Hybrid Module Type Precipitator

> Gas Treatment System

- Wet Flue Gas Desulfurization
- Semi Dry/GSA
- SCR/SNCR
- VOCs Control System
- Exhaust Gas Cleaning System (For Marine)

Retrofit & Maintenance

- Air Quality Control System Retrofit
- Technical Service
- Feasibility Study

Manufacturing Services

- Dampers
- Steel Work

New & Renewable Energy

- Solar Power System
- Biomass & Waste to Energy

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Gas
Treatment
System

Denitrification System - SCR / SNCR

www.kc-cottrell.com

Global Leader in Green Technology

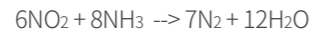
- People & Technology keeping our planet sustainable...



De-NOx system is based on reactions between reductants and nitrogen oxides. KC Cottrell has supplied highly reliable De-NOx systems fitting the diverse needs and situations of our customers throughout the world. We have successfully installed DeNOx systems in Power Plants, Waste to Energy and heavy industries like steel and non-ferrous.

Process

Denitrification or DeNOx system eliminates NOx (Nitrogen Oxides) by reaction with injection of ammonia or urea based on the following equations:



Advantage

A wealth of experience

across various fuels & applications

High NOx removal efficiency

≥ 90%

Low catalyst cost

due to optimized engineering & compact design

Selective Catalytic Reduction(SCR)

Selective Catalytic Reduction(SCR) process has a reduction reaction at comparatively low temperature using catalysts. This process shows the highest efficiency and stability in removing nitrogen oxides.

References

- Samcheonpo Thermal Power Plant No.1~2 500MWx2, Korea (2009)
- Gheco Thermal Power Plant No.1 700MW, Thailand (2010)
- POSCO Gwangyang Sinter Plant No.5, Korea (2010)
- North Jeju Thermal Power Plant No.2~3 75MWx2, Korea (2010)
- Atomtech Cheng loong Paper Plant, Taiwan (2011)
- POSCO SNNC Gwangyang Fe-Ni Refining Plant, Korea (2014)
- Sejong Thermal Power Plant 500MW, Korea (2013)
- Shinseojeon Thermal Power Plant 1000MW, Korea (2019)



Saemangeum Power Plant



Atomtech Cheng loong Paper Plant



Shinboryeong Thermal Power Plant

Catalyst Regeneration Process

Catalysts account for a large part of operating costs. Therefore, we developed a technology to regenerate used catalysts. Regenerated catalysts can show efficiencies more than 90% of new ones while reducing expenses and protecting environments.



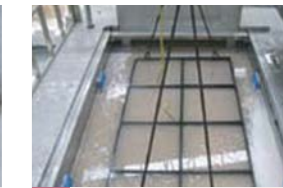
0 Used catalyst



1 Pre-washing



2 Bubbling



3 Ultrasonic



4 Washing



5 Coating



6 Drying

Selective Non-Catalytic Reduction(SNCR)

Selective Non-Catalytic Reduction(SNCR) process happens in a higher temperature (850°C~1,050°C) area than SCR. KC Cottrell guarantees the best performances of SNCR by selecting exact areas to spray reductants based on the simulation of flue gas flow pattern.

References

- POSCO Pohang Steel Mill No.1~12, Korea (2011~2012)
- CFBC Boiler, LG Chem Company, Korea (2008)
- Yecheon Plant, KCES Company, Korea (2004)
- Sunglim Oil & Chemical Company, Korea (2003)
- Taiwan Taoyuan International Airport (Chiang Kai-shek International Airport), Taiwan (2000)



CFBC Boiler, LG Chem Company