

Application**brief**

- Eclipse Product:** Minnox-LS line burner (Linnox in USA)
- Submitted by:** Guy Blondeau – Belgium
- Application:** Flue gas reheat for a Catalytic deNOx system in existing incinerator.
- Description:**

The IVAGO company in Ghent, Belgium, has to incinerate 100.000 T/year of city garbage and stay within the environmental protection laws. This is all the waste generated in Ghent. They have no landfill. In order to remain in compliance, the existing installation was completely renewed in 1996 and a catalytic deNOx installation, including Linnox, was added in June 2000.

The installation

Working of the installation is as follows: the waste is burned on an inclined grate with post-combustion on min. 850° C to avoid formation of dioxins. Then the combustion products are filtered a first time, treated with lime milk in a reactor, filtered a second time, washed and finally conveyed to the deNOx installation. The deNOx installation operates in the following manner: first the combustion products are heated through a steam exchanger and then by the Eclipse Linnox direct-fired air heating burners. Then they are mixed with ammonia before entering the catalytic reactor where different chemical reactions take place. The combustion products are cleaned of nitrogen dioxide (NOx) and the remaining dioxins are destroyed.

The requirements

To meet the requirements, it was essential that the burners satisfy the following conditions:

- very low Nox and CO emissions
- uniform heat distribution over the duct width
- as large as possible modulating range
- air excess as low as possible.

The selected burner

To satisfy all of these strict requirements, the Eclipse Linnox line burner was chosen for following reasons:

- modular construction of burners with length of 300 mm each
- capacity per module: 24 to 120 kW, separately and individually exchangeable per module
- NOx: lower than 9 ppm at 3% O2, on natural gas
- CO: lower than 100 ppm in the same conditions
- modulating range: 10 : 1
- excess air: lower than 40%
- flame length: max. 250 mm.

The results

The mechanical life of the reactor will be extended due to the very low emissions of Minnox burners. The environment is protected as the global incineration installation combined with the Eclipse burners, comply with the strict European regulations. The line burner system assures perfect temperature uniformity over the whole width of the duct.



de NOx installation



Gas train and control panel



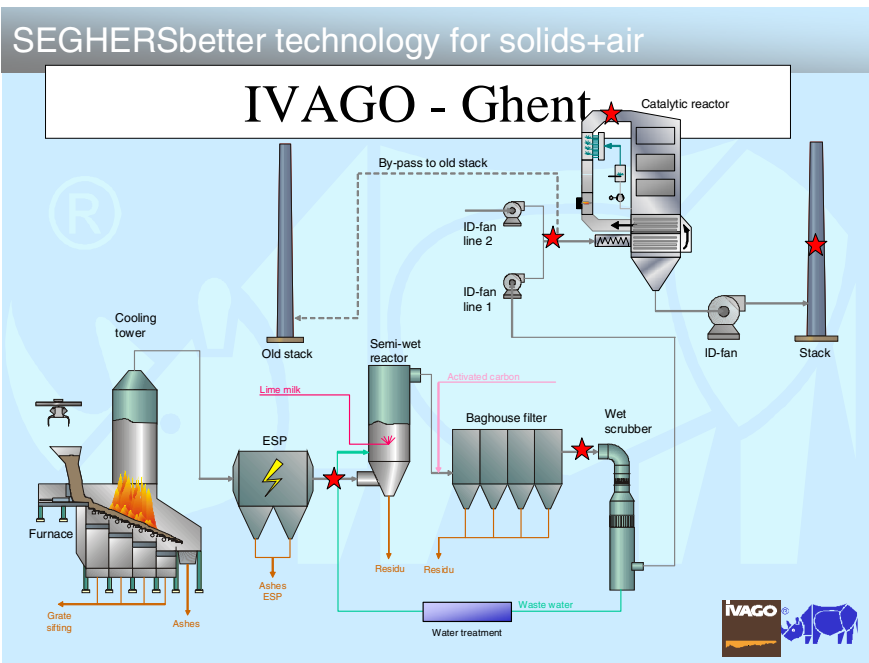
Burners with UV cells, gas train and combustion air duct



Burner flame



Air regulating group



System overview

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