

PROJECT DESCRIPTION

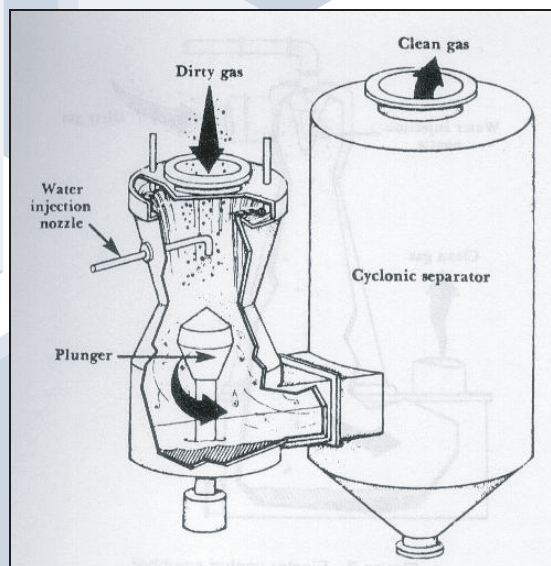
Particulates, NH₃ and HCl Abatement System
W.R. GRACE & CO OF CANADA (GRACE DAVISON)
Valleyfield, QC

PROJECT SCOPE

The project consisted in treatment of exhaust gas emissions coming from a rotary kiln during catalyst production process to comply with local regulations on particulates and gaseous contaminants.

Mesar / Environair was mandated to provide engineering of a particulates / scrubbing system to the Grace plant at Valleyfield in Québec.

At Valleyfield plant, the waste stream to be treated comes from a rotary kiln exhaust stream with variable grade of catalyst and contaminants. The main contaminants were particulates, ammonia and HCl.



The treatment system consists in a thermal incinerator (to burn ammonia) followed by a wet Venturi (to remove particulates), an acid scrubber followed by an alkaline scrubber (to remove HCl).

Other equipment like recirculation pump, metering pump, mist eliminator and fan were supplied to insure a safe system design.

RESULTS

The system was installed in July 1996 as scheduled. Performance trials in the following months showed that the scrubbing system consistently operates, and the plant was then in compliance with provincial regulations.

The system efficiencies were 99% on NH₃ and HCl, and the system turndown allows the plant to work with a wide range of different operating conditions.