



Simultaneous process and emission monitoring through two automatically switching FT-IR Gas Analyzers

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Abstract

In this paper results from the real application of a system made by two FT-IR analyzers on a fertilizer industry in Italy are shown.

The system has been studied, engineered and installed in order to measure NO, NO₂, N₂O and NH₃ at two sampling points, before and after the DeNO_x reactor: this allows to monitor the gaseous streams in order to optimize the flue gas denitrification process, as well as the emissions at the stack. Both analyzers are based on GIGAS 10M FT-IR Spectrometer, TÜV certified (EN 14181 and EN 14956).

The main peculiarity of the engineered system is the possibility of automatically switching the two sampling lines connected with both the analyzers: in case of failure or maintenance of one of the analyzers, it is possible to use the other one as backup system in a fast and easy way. The switching system includes the automatic adjustment of measuring range depending on the two sampling points as well, since concentrations of measured gas are very different before and after the DeNO_x reactor. Finally benefits due to a more reliable emission and process control allowed by the use of such a kind of system are discussed