

Gasmeter™ in emissions monitoring – applications:

Continuous Emissions monitoring in Cement Kilns

Emissions from Cement Kilns

Various pollutants are generated in cement manufacturing process. Due to very high process temperatures more oxides of nitrogen are generated than in normal waste incineration. FTIR – analyzer such as **Gasmeter™** can easily cope with higher NOx ranges as well. High dust concentrations are also typical for cement industry emissions: **Gasmeter™** CEMS have double filtering system; one filter at the sampling probe and a back-up filter inside the sampling unit, which eliminate dust problems. In extremely high dust concentrations it is also possible to use a pre-filter & a back-flush with instrument air at the probes, which further help to eliminate all potential dust related problems.



Typical application

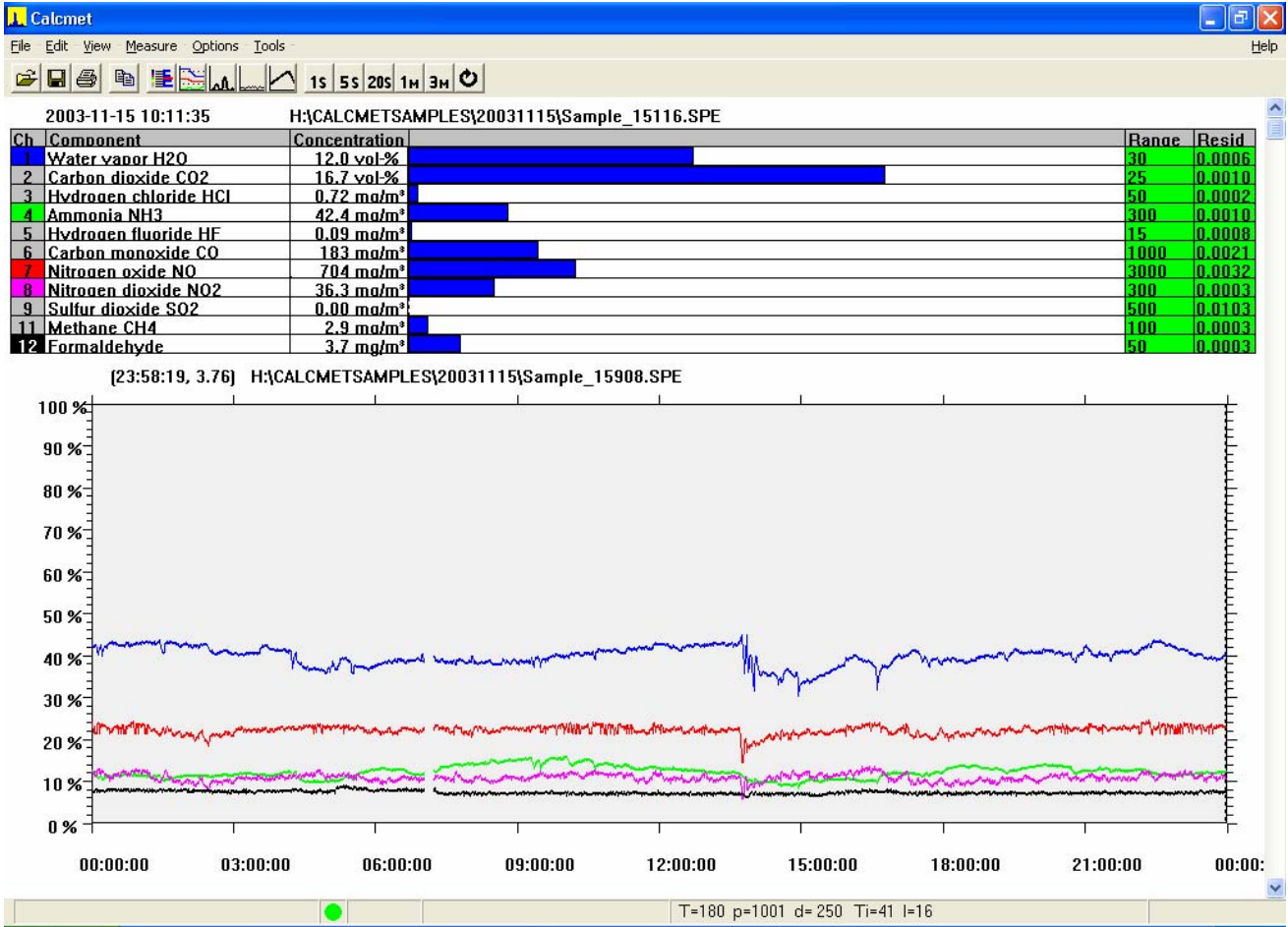
H ₂ O	0-30	Vol-%
CO ₂	0-25	Vol-%
CO	0-75	mg/Nm ³
NO	0-800	mg/Nm ³
NO ₂	0-200	mg/Nm ³
N ₂ O	0-100	mg/Nm ³
SO ₂	0-75	mg/Nm ³
NH ₃	0-15	mg/Nm ³
CH ₄	0-100	mg/Nm ³
HCl	0-15	mg/Nm ³
HF	0-15	mg/Nm ³

Gasmeter™ CEMS –system:

CX4000 FTIR gas analyzer; Gasmeter sampling unit; Gasmeter Industrial Computer; Analog outputs or ModBus;
Heated sample probe; Heated sample lines; Optional oxygen analyzer

Application Data: Cement Kilns emissions

The data below shows trend of concentrations over 24 hours period. **Gasmeter™** CEM - system produces continuous data the only downtime being daily zero calibration (< 10 minutes).



The results show very high NO_x concentrations. As an interesting detail, there is also formaldehyde (CH₂O) present in the process emission. **Gasmeter™** CEMS can also reveal such unexpected components from the sample gas.