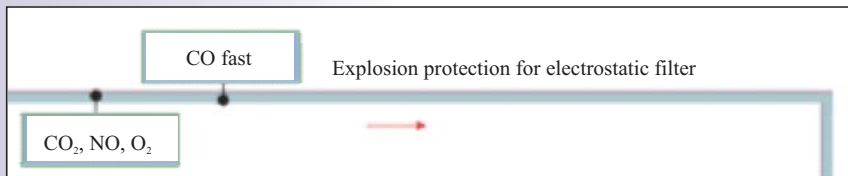
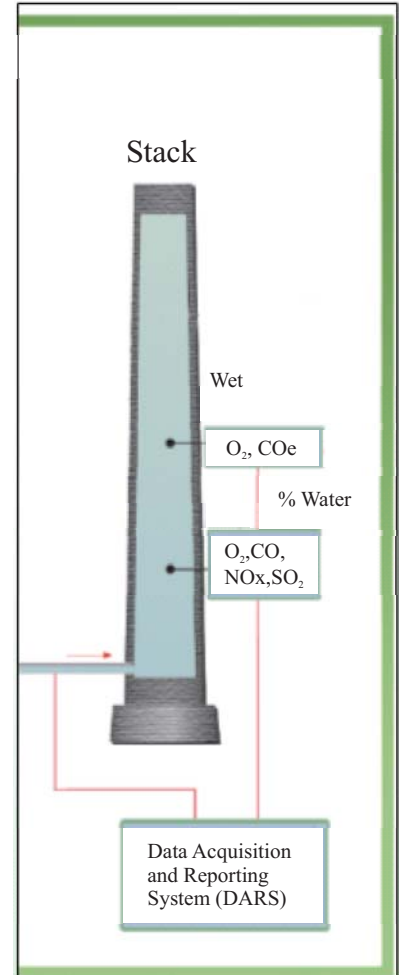
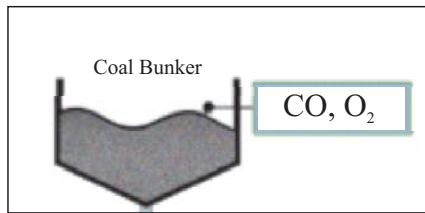
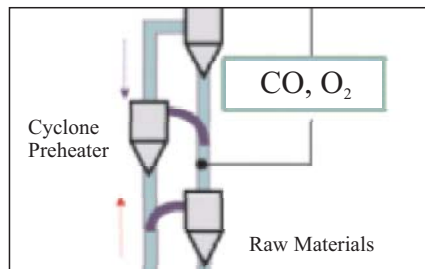
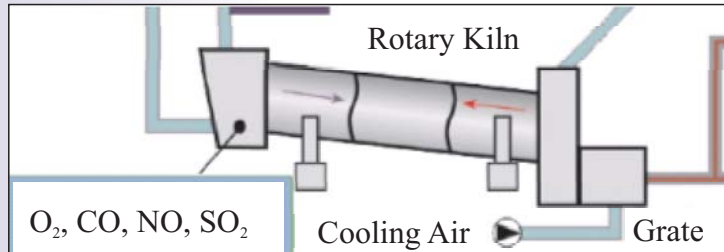


Cement Kiln Monitoring



The Applications

1. Kiln Monitoring
2. Coal Bin / Coal Mill Monitoring
3. CEMS
4. Partical Monitoring
 - 4.1. Optical Scintillation
 - 4.2. Electrodynamic Scintillation

1. Kiln Monitoring System

Very rugged and powerful rack and pinion retraction mechanism

Specially designed for dusty and harsh environment



ECM ECO Monitoring

Environmental & Process Monitoring instrumentation & systems

180°C heated filter avoids blockage and is corrosion free

Automatic compressed air blowback

Cooling water inlet and return



2. Coal Bin and Coal Mill

Includes:

- Measured components O₂, CO
- 1800 & 2500 or 4900 series analyzers
- Heated (60°C) sintered metal filter probes with blowback
- Multi-stream switching and analysis
- Sample conditioning system utilizing vortex cooler to dry sample to 4°C
- Hot-Wet analysis with sample maintained at 130°C is optionally available
- Rugged external enclosure with optional A/C or vortex cooling
- Optional PLC
- Component data sent to plant control system for alarming & fire protection monitoring



3. Cement Kiln Emission Monitoring Systems

Typical monitored parameters for process application are:

NO_x
CO
Oxygen
temperature

Typical monitored parameters for emission monitoring systems are:

SO ₂	solid particles
NO _x	oxygen
CO	flow
Organic C	pressure
HCl	temperature
HF	

Each ECM monitoring system is customer application tailored. Final design reflects all the application, presentation and legislative aspects. Since ECM as an independent system house, the offered system solutions are not limited to certain measuring method.

For process applications we do offer water cooled high temperature and solid particle resistive sampling systems. The system is simple and cost effective.

For emission monitoring systems ECM can offer all standard straight extractive, in situ, or dilution measuring methods based systems. Instruments can be chosen from a variety of manufacturers using different measuring principles.

For European hot rotating cement kiln systems we prefer extractive sampling system.

The analyzers are preferably NDIR or FTIR instruments. For particle monitoring new scintillation method are an attractive alternative for classical opacity or light scattering based instruments.

Data systems

ECM provides customised data systems in full compliance with legislation and language of respective country.

Core component of the data system are data loggers. They create and maintain a reliable database allowing full data recovery even in case of a main upper data system failure transferred to a central PC system.

Measured data can be distributed via LAN or dial up line to local or remote end users.

Standard feature of ECM software packages is interface to plant LAN system and possibility to a remote access for environmental supervision authorities.

ECM software can be interfaced to Internet.

4.1. Optical Scintillation

- Ease of installation - Minimum alignment no special equipment needed
- Low running costs over 5 years
- No user serviceable parts for regular replacement – running costs just air supply
- Instrument not damaged if air fails
- Operates with heavy lens contamination
- Approved to TUV BimSchV 13 and Mcerts
- Minimum affect from changing particle colour, shape -due to ratio-metric measurement



4.2. Electrodynamic Scintillation

- Simple installation – no alignment
- Contamination resistant
- Quality measurement - Advanced & patented self checks – adding confidence of quality of measurement
- Added value features including predict for BB detection, Ethernet for LAN and other connectivity features over and above competitors

