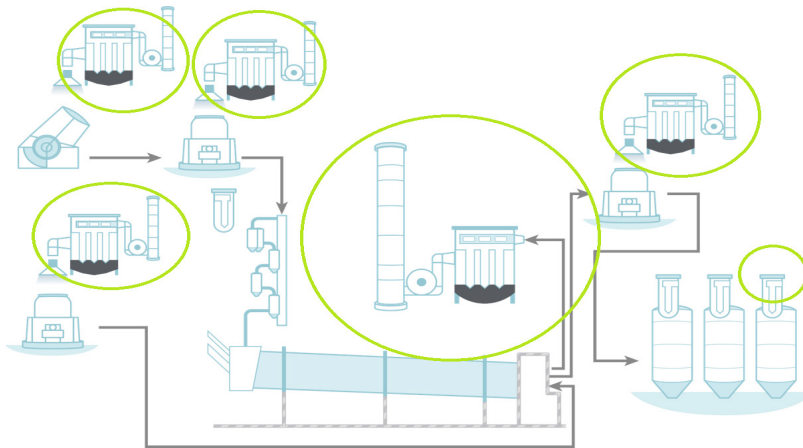


Dust Monitoring SOLUTIONS FOR CEMENT PLANTS

Particulate emissions from cement kilns have been reduced significantly over the last few decades due in part to ever-tightening regulatory controls including the lowering of emission limit values (ELVs) and the associated increase in installations of highly effective filtration systems which require higher quality monitoring.

- Main emissions to air are from the kiln system
- Additional potential sources include crushing plant, coal mills, clinker mills and silos

Recognising differing environmental conditions and process applications require different particulate emission measurement technology options, ENVEA offers an extensive technology range including Light Scatter, Probe Electrification, Opacity and Ratiometric Opacity for regulatory compliance and to facilitate filter and process optimisation.



- Stack particulate emissions compliance measurement
- Baghouse chamber and filter performance monitoring
- Predictive bag filter row monitoring

PM CEMS IN THE KILN STACK: TECHNOLOGY CONSIDERATIONS

Technology choice is based on regulatory requirements including normal dust operating levels and filter type. As ELVs decrease, installations of Scatter-based systems (forward or back) are more common due to a measurement capability at very low dust concentrations. Systems are approved to the latest MCERTS and TUV standards with extensive quality assurance and audit features for ongoing quality assurance. Systems can be calibrated to provide a mg/m^3 measurement in comparison to a standard reference (isokinetic) test.

MONITORING BEYOND THE MAIN KILN STACK

Bag filters are widely used as the preferred emission abatement for cement plants and there is a growing need for continuous monitoring to understand how the arrestment plant is working. Monitoring on individual compartment outlets provides data to Plant Operators which enables the location of faulty and failing filter media before gross failure occurs. This in turn ensures efficient operation and control of bag filter arrestment plant and considerably reduces maintenance costs and expensive process downtime.

Bag filter arrestment plants can be monitored by a networked system of *ElectroDynamic™* Probe Electrification instruments, certified to TUV and MCERTS performance standards with patented features to a high performance under a wide range of process conditions.

Crushing Plant

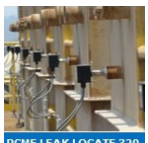
ElectroDynamic™ technology-based systems suitable for relatively small diameter stacks with low dust loads, typically $<5\text{mg}/\text{m}^3$



PCME STACK 990

Silo Filters

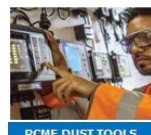
Single sensor units or multi-channel networked systems for early warning of silo filter leakage or rupture preventing environmental impact and product loss



PCME LEAK LOCATE 320

Coal Mills

Filter condition assessed remotely utilising PC-ME Dust Tools software



PCME DUST TOOLS

Clinker Mills

Fully insulated *ElectroDynamic™* sensor for effective monitoring in humid conditions



PCME STACK 990