

# SERVOMEX SOLUTIONS



## WHY SERVOMEX - CEMENT APPLICATIONS

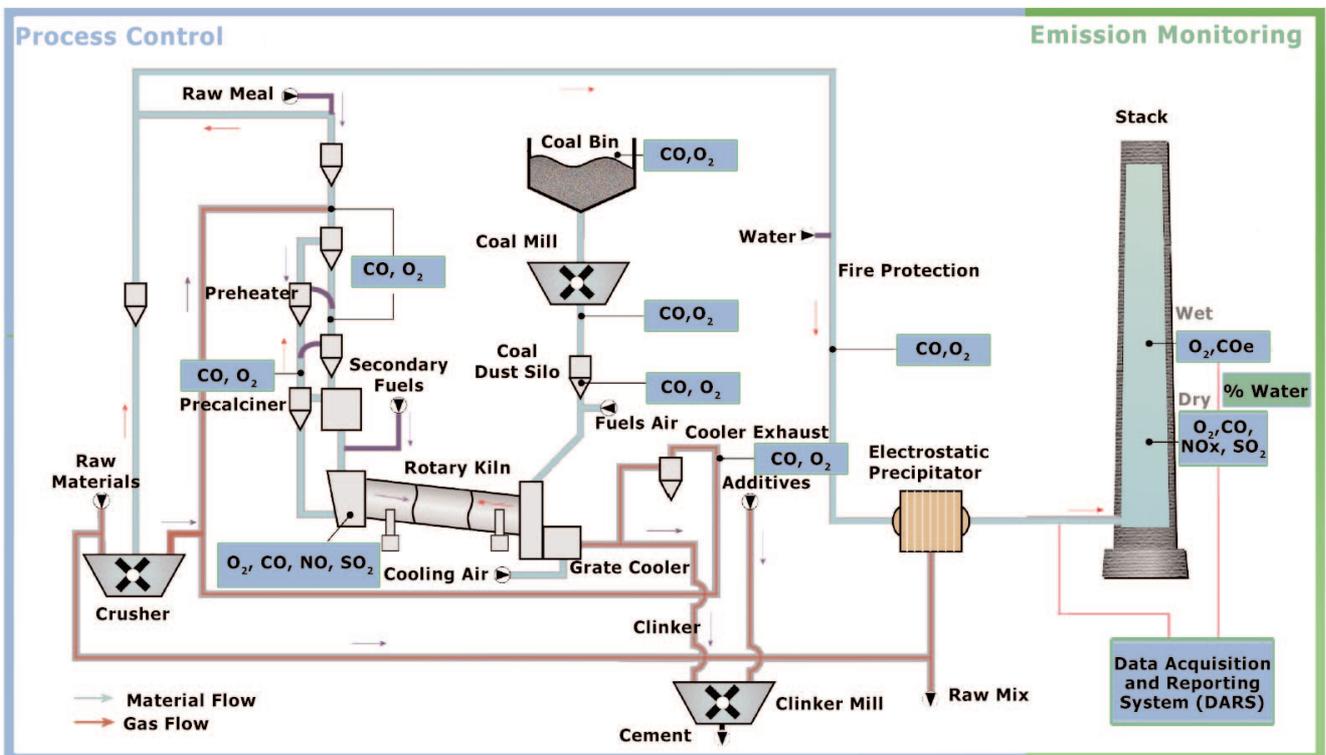
### Who we are

Throughout the world, companies operating in process and environmental industries depend on suppliers who can provide resolution to the most demanding gas analysis requirements. For over 50 years, Servomex has designed and manufactured reliable advanced gas analyzers and monitoring systems to meet and exceed the needs of these industries.

### How we can serve you

Our goal is to lower your costs by raising your plant performance and minimizing downtime. Servomex products and services are used in over 70 countries to meet the key objectives of improving plant efficiency, increasing product quality, maintaining plant and process safety and helping companies to comply with environmental legislation.

### Cement Plant



### Kiln Monitoring

The manufacture of cement is energy intensive. Efficient control of the combustion process is essential.

Clinker quality is directly related to the compositional mix of the gas phase components. Proven sampling techniques are employed to successfully address high temperatures and dust levels. Servomex has fixed and retractable probe solutions specific to cement kilns for wet and dry processes with sample temperatures up to 1400°C.

Sample gas is extracted and transported at elevated temperatures above the dew point to ensure all components remain in a vapor phase. Servomex offers HOT-WET sample systems with heated cells in our analyzers operating at 130°C for high concentrations of SO<sub>2</sub> (>2,500 ppm). Lower concentrations of SO<sub>2</sub> pass through corrosive resistant high capacity chillers that ensure dry sample of dew points from -10°C down to -30°C. Typical measurements are oxygen (0-10% O<sub>2</sub>), carbon monoxide (0-5000ppm CO), nitric oxide (0-5000ppm NO) and sulphur dioxide (0-500ppm SO<sub>2</sub>). Other measurement ranges are also available.

Analyzers: 2500, 2510, 1800, 4900

## Pre-Heater & Pre-Calculator

Hot flue gases are used to preheat or calcine materials being fed to the cement kilns. Optimization of secondary fuel combustion is a key process goal. The gases generally have lower dust loads and also lower temperatures (250-900°C). Sample conditioning is relatively simple in comparison to kiln monitoring. Measurements include oxygen (0-5% O<sub>2</sub>) and carbon monoxide (0-2000ppm CO).

Analyzers: 2510, 1800, 4900, 2700

## Electrostatic Precipitator / Dust Collectors

Safety is of primary concern for control and protection of the electrostatic precipitator and dust collectors. The measurement of oxygen (0-25% O<sub>2</sub>) and carbon monoxide (0-2000ppm CO) are generally made at lower temperatures (100°C) prior to the electrostatic precipitators.

Analyzers: 2510, 1800, 4900

## Coal Raw & Fine Bin / Coal Mill Monitoring

Coal mills grind coal to powder before injection into the furnace. These regions are usually inerted with scrubbed flue gases or nitrogen to avoid the risk of spontaneous combustion leading to serious fires. Oxygen (0-25% O<sub>2</sub>) is monitored to ensure that the process is inert. Low level carbon monoxide (0-2000ppm CO) is monitored to indicate the potential of spontaneous combustion. A combination of both measurements is ideal.

Analyzers: 2510, 1800, 4900

## Continuous Emission Monitoring (CEM system)

Local and national legislation requires the analysis of various components from the combustion processes. Typical requirements include oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO) and either oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>) for the normalization signal for reporting. Reliable low cost solution includes highly efficient sample handling with triple chillers to avoid acid gas losses, temperature controlled 19" rack cabinets with front and rear easy access, and optional PLC, as required.

Analyzers: 4900, 2700

Relying on a history of reliable performance, Servomex is ready to provide the right product to ensure an analytical solution for your process.

Visit [www.servomex.com](http://www.servomex.com) for technical data sheets, application and technology information for all Servomex analyzers.

Servomex has a policy of constant product improvement and therefore reserves the right to change specifications without notice.



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