



# FREE LIME ANALYSER KLC3



**THIS ANALYSER MEASURES THE FREE LIME RATE  
IN CLINKER**

**Key information required in the cement manufacturing  
process to guarantee the end product quality without  
excessive burning**

## ADVANTAGES

Automatic **on-line** equipment requiring no human intervention

Up to **3 sampling points** can be controlled by the same analyser

Monitoring and **control** of kiln operations

High **cost savings** by the automatic adjustment of burning conditions temperature to the target free lime rate

**Improved quality** by continuous control of the clinker specifications

**High reliability** level due to the precise measurement with a failure management software program

## PRINCIPLE

- Custom designed automatic sampling & transport systems
  - Clinker grinding
  - Sample & glycol precise weighing
  - Mixing & heating of the solution

The following chemical reaction occurs between the free lime in clinker and the ethylene glycol:  $\text{CaO} + (\text{CH}_2\text{OH})_2 \rightarrow \text{H}_2\text{O} + (\text{CH}_2\text{O})_2^{2-} + \text{Ca}^{2+}$

- Conductivity of the solution is measured
- Output information transmitted to the kiln management unit
  - Waste ejection

## PERFORMANCES

- **High frequency analysis** : up to **5 analysis / hour**
- **High performance** grinding unit that guarantees a constant fineness
  - **No sample cross contamination**
- **High precision** of sample weighing combined with automatic weight variation compensation system (patented)
- **Conductivity measurement** carried out at a high and constant T° (80°C)
  - **4 operating modes**: Automatic - Calibration - Manual - Test
  - Measurement **range & repeatability** : **0,2 to 5%**     $\sigma = 0,05$

## SPECIFICATIONS

- |          |           |                        |   |
|----------|-----------|------------------------|---|
| • Height | : 1853 mm | Power supply:          | any from 400 to 600 V; 50-60 Hz                 |
| • Depth  | : 833 mm  | Compressed air supply: | 6 bars, dry and clean                           |
| • Length | : 1833 mm | Location:              | - close to the cooler(s)<br>- in the laboratory |
| • Weight | : 500 kg  |                        |   |

*ITECA reserves the right to modify its products without any prior notification*