

Technical Data

Max. flue gas temp.: >+1400°C
 Max. dust loading: any concentration
 Type of fuel: coal, oil, refuse derived fuels
 Probe length: 2000mm to 4500mm
 Probe diameter: 120mm
 Probe material: 1.4571 (others on request)
 Probe cooling: water (others on request)
 Probe propulsion: pneumatic
 Emergency retraction: pneumatic
 Turning mechanism: +/-45° to +/-90°
 Compressed air: 4-6 bar, dry and oil free
 Cooling water: lime and particle free, max. +30°C
 Power supply voltage: 115-230 VAC 50/60 Hz
 Ambient temperature: +5°C to +50°C (others on request)
 Total weight: 1,2 t (depending on probe length and options)

Gas analysis: O₂/CO_e InSitu measurement
 SO₂, NO_x, CO₂ etc. for extractive sampling analyser use (60 l/h)
 Measuring ranges: 0-2% O₂ to 0-25% O₂
 0-500 ppm CO_e to 0-10.000 ppm CO_e
Measuring accuracy: (InSitu optional)
 Oxygen: +/- 0,2% of the measuring value, min. 1ppm O₂
 CO_e (Combustibles): +/- 2% of the measuring value or max. +/- 25 ppm CO_e
 Output signals: 2 x 4-20mA
 Potential-free contacts: limit values and alarms
 Reaction time meas. cell: < 1 sec.
 T90-time measuring cell: ca. 5 sec.

CEMTEC®

High Temperature Gas Sampling Probe and InSitu* Analyser System

Designed for:

- Cement plant rotating kiln inlets
- Lime works rotating kiln inlets
- Tall combustion chambers and boilers

CEMTEC® Benefits at a Glance:

The worldwide sole sampling probe including:

- Turning drive* (protects the probe against fixing inside the kiln inlet)
- Mechanical cleaning of the sampling probe* (no interruption of the measuring value logging)
- Fast reaction time by means of InSitu analysis

The outcome is:

- Reduction of down time due to lower maintenance time
- Reduction of maintenance costs due to automatic cleaning
- High reliability due to the monitoring of all system parameters
- Constantly high product quality by optimisation of the combustion temperature
- Least possible environmental impact due to lower emission rates by means of fuel saving



Cooling water heat exchanger

* enables higher detection time / dwell time inside the process

Some references

- LAFARGE
- Heidelberg Cement
- Mittal-Steel
- HOLCIM
- CYCNA / CRUZ AZUL
- Thomson Group



Maximum efficiency and supreme quality for the world market

ENOTEC GmbH

Headquarters
 Höher Birken 6
 51709 Marienheide
 GERMANY
 Phone: +49 22 64-4578-0
 Fax: +49 22 64-4578-31
 Email: info@enotec.de
 www.enotec.de
 www.enotec.com

ENOTEC Inc.

6206 Sandy Ridge Circle NW
 North Canton
 OHIO 44720 - 6686
 USA
 Phone: +1 330 498 0202
 Fax: +1 330 497 9802
 Email: enotec.inc@enotec.com

ENOTEC UK Ltd.

PO BOX 9026
 Dumfries
 DG1 3YH
 United Kingdom
 Phone: +44 8703 500 102
 Fax: +44 8703 500 302
 Email: enotec.uk@enotec.com

ENOTEC ASIA PTE. Ltd.

150, Pasir Panjang Distripark
 Block 1
 #02-19 Pasir Panjang Road
 Singapore 118480
 Phone: +65 6100 2188
 Fax: +65 6399 2780
 Email: enotec.asia@enotec.com

And 50 International Distributors

ENOTEC policy is one on continuous product improvement, and therefore, reserves the right to change specifications and information as required without prior notice.

* optional

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The CEMTEC® Configuration

- CEMTEC® gas sampling probe
- Local control panel
- PLC control cabinet (optional Siemens or Allen Bradley)
- Heat exchanger cabinet
- Compressed air tank
- COMTEC® InSitu measuring probe O₂/CO_e incl. electronic unit*
- Extractive analyser cabinet* for the measurement of SO₂, NO_x, etc.

The CEMTEC® Functions

- Mechanical (compressed air free) cleaning
- Cleaning with compressed air
- Turning drive
- Emergency retraction in case of a lag of compressed air and failure of probe cooling or system voltage supply
- Emergency retraction while stopping the operation of the rotary kiln or the burner

All functions are programmable and monitored by a PLC control cabinet.



Overview of the entire CEMTEC® measuring system

The CEMTEC® gas sampling probe is run in the combustion process manually or automatically through the pneumatic propulsion device. The process gas is sucked off through the tip of the cooling protection tube inside the filter element and conveyed to the centrally positioned and heated measuring chamber.

In this measuring chamber the optional InSitu measuring probe for fast O₂/CO_e analysis is placed. The measurement of further important chemical components is possible by means of a heated gas extractor tube connected with the measuring chamber.

* optional

The patented turning device protects the gas sampling probe from deformation by falling raw material as well as from gathering of raw material on the surface which solidifies and blocks the probe inside



The turning CEMTEC® cooling protection tube inside the combustion chamber

The mechanical cleaning allows the uninterrupted sampling and analysis of process gas over a long period. The dust filter with the push plate at the top is mounted coaxially inside the cooling protection tube. In regular (PLC programmable) intervals it pushes forward out of the cooling protection tube and removes fixed dust precipitations without applica-



The dust filter with the push plate at the top

tion of compressed air. Additionally every certain time interval the complete unit together with the sample gas tube is been cleaned by means of compressed air. The cleaning is carried out every hour automatically and furthermore when the minimum acceptable level of gas flow is signalled.



The CEMTEC® turning drive

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The top of the push plate inside the cooling protection tube



The mechanical cleaning in time succession (Duration approx. 2 s)