

## **CEMTEC<sup>®</sup>**

*Patented self cleaning gas extraction probe for continuous measurement in cement kilns*

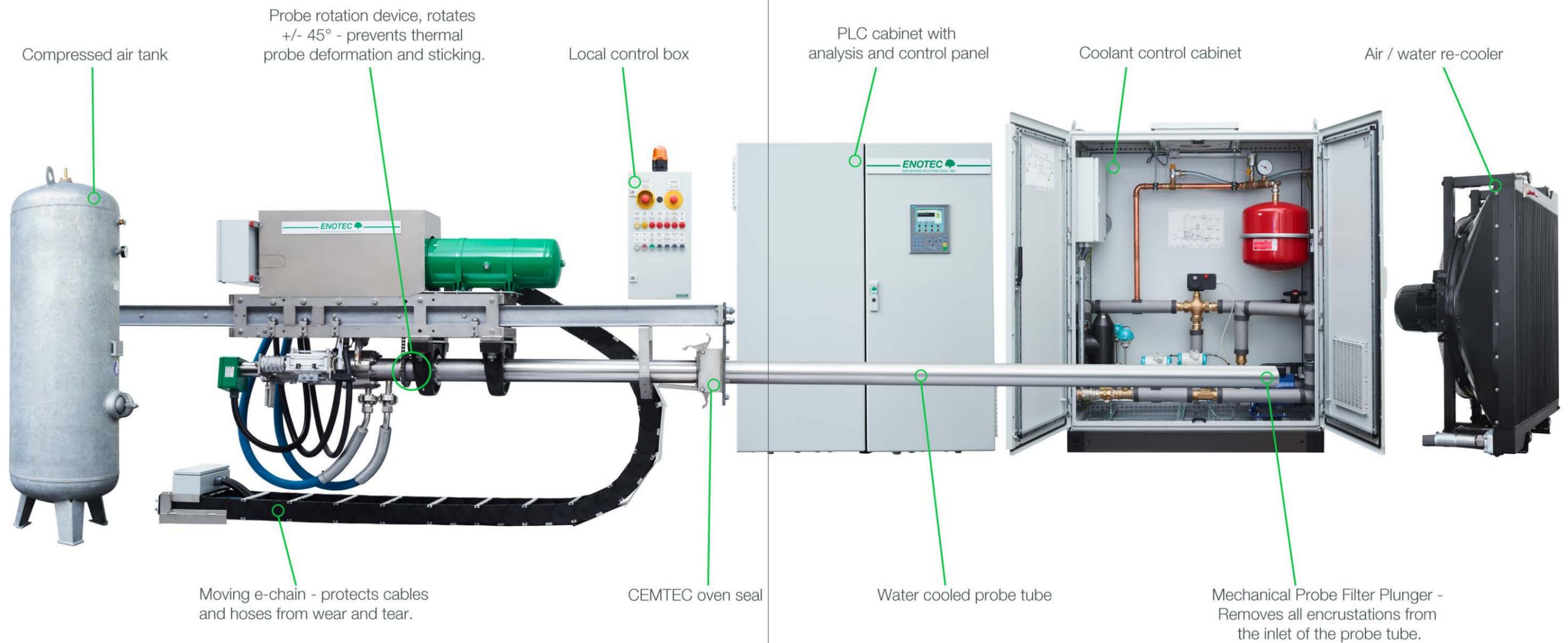


DEVELOPED AND  
MANUFACTURED  
IN GERMANY



**95% AVAILABILITY  
OF MEASUREMENT**

**CEMTEC<sup>®</sup>**  
OVERVIEW



**CEMTEC®**  
SYSTEM CONFIGURATION

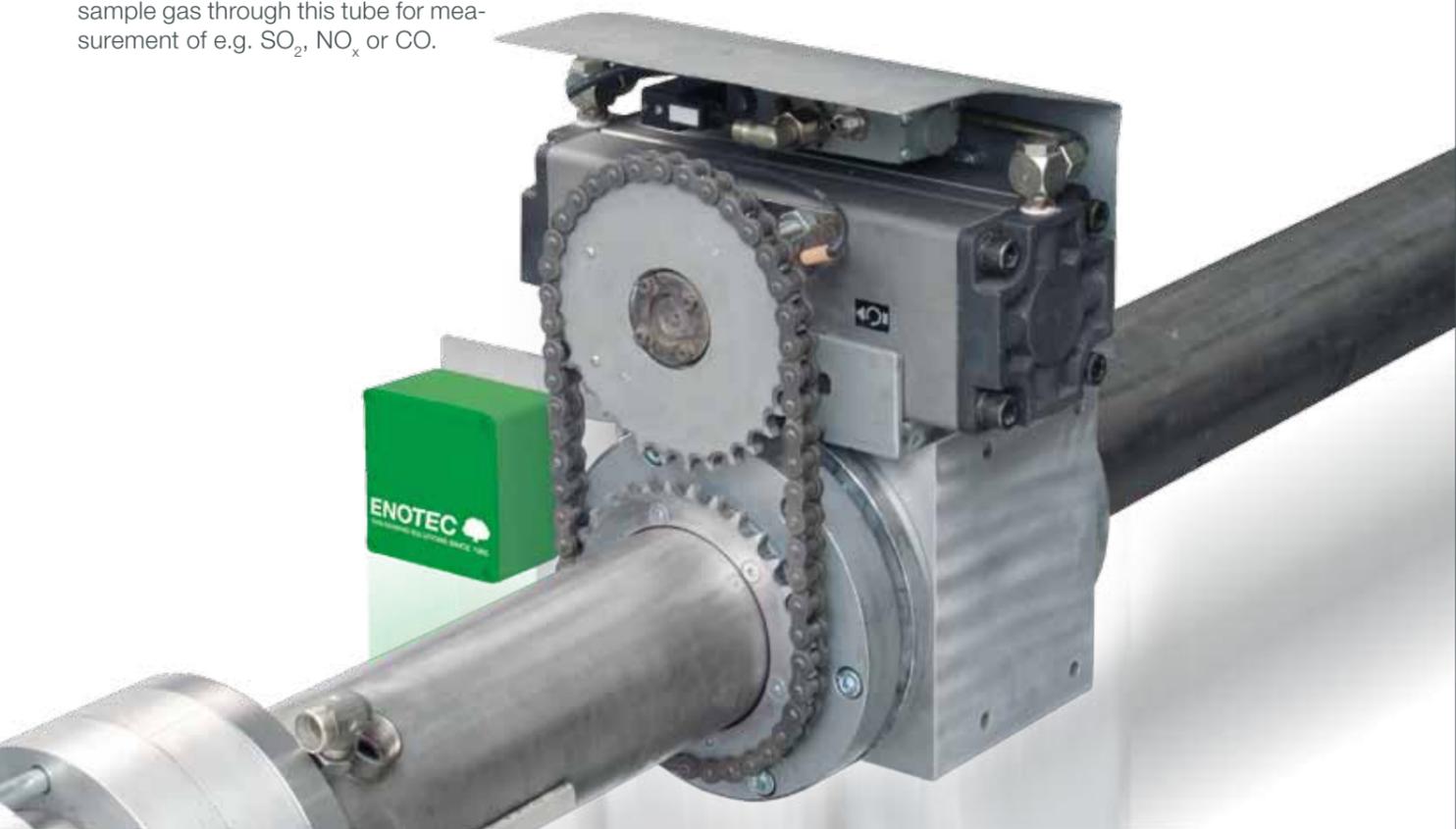
**CEMTEC®**  
HOW IT FUNCTIONS

CEMTEC provides many years of maintenance free operation in cement kilns or in applications with high temperatures and/or high dust loads. The patented CEMTEC consists of a water-cooled gas sampling probe, which is mounted on a pneumatic propulsion device and travels in and out of the combustion process.

The process gas is sucked into the filter unit through the tip of the cooling protection tube, and then into the centrally positioned measuring chamber.

In addition to the ENSITU sensors for the instantaneous O<sub>2</sub> and CO<sub>g</sub> analysis, a heated gas sampling tube is located in the measuring chamber. The extractive analyzer is supplied with sample gas through this tube for measurement of e.g. SO<sub>2</sub>, NO<sub>x</sub> or CO.

- > CEMTEC probe with oven flap
- > Local control box
- > PLC cabinet
- > Heat exchanger cabinet
- > COMTEC InSitu analyzer
- > Extractive analyzer for measurement
- > Compressed air tank



Process temperatures up to 1400°C, dust concentrations of up to 2000g/m<sup>3</sup>, high mechanical stress due to falling material and ambient temperatures up to 55°C make extremely high demands on any technology in use.

Thanks to the mechanical cleaning, the continuous extraction and analysis of process gas is possible over a long period of time. The dust filter with its impact plate at the tip is coaxially mounted within the cooling protection tube and moves in programmable intervals out of the tip of the cooling protection tube to remove any dust deposits.

The patented CEMTEC swivel drive prevents deformation of the cooling protection tube from falling debris and the cementing of the gas sampling probe by continuously turning within the combustion chamber.

**AUTOMATIC  
SELF CLEANING**

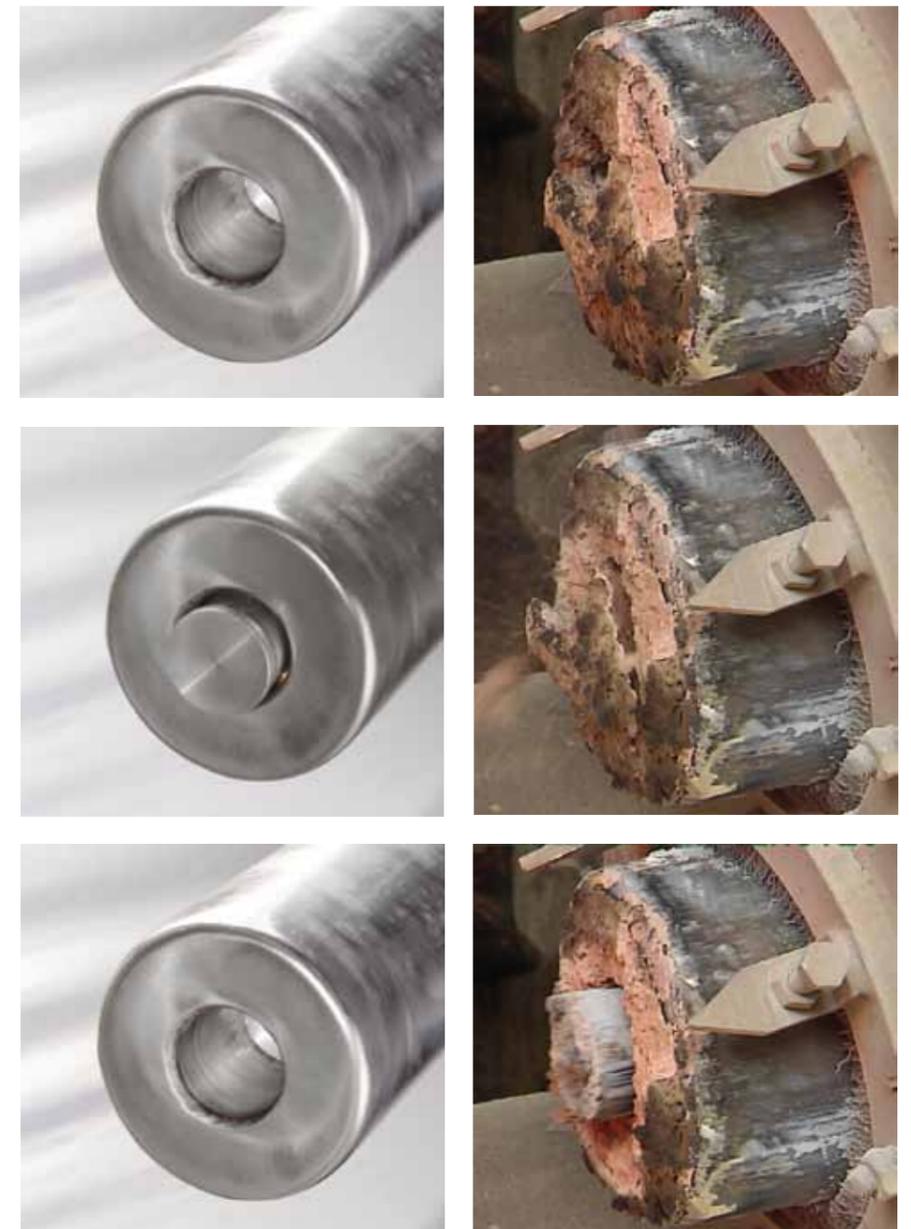


Fig. The dust filter with its moving impact plate prevents the forming of deposits.

**CEMTEC®**  
PERMANENT PROCESS CONTROL

**CEMTEC®**  
TECHNICAL DETAILS

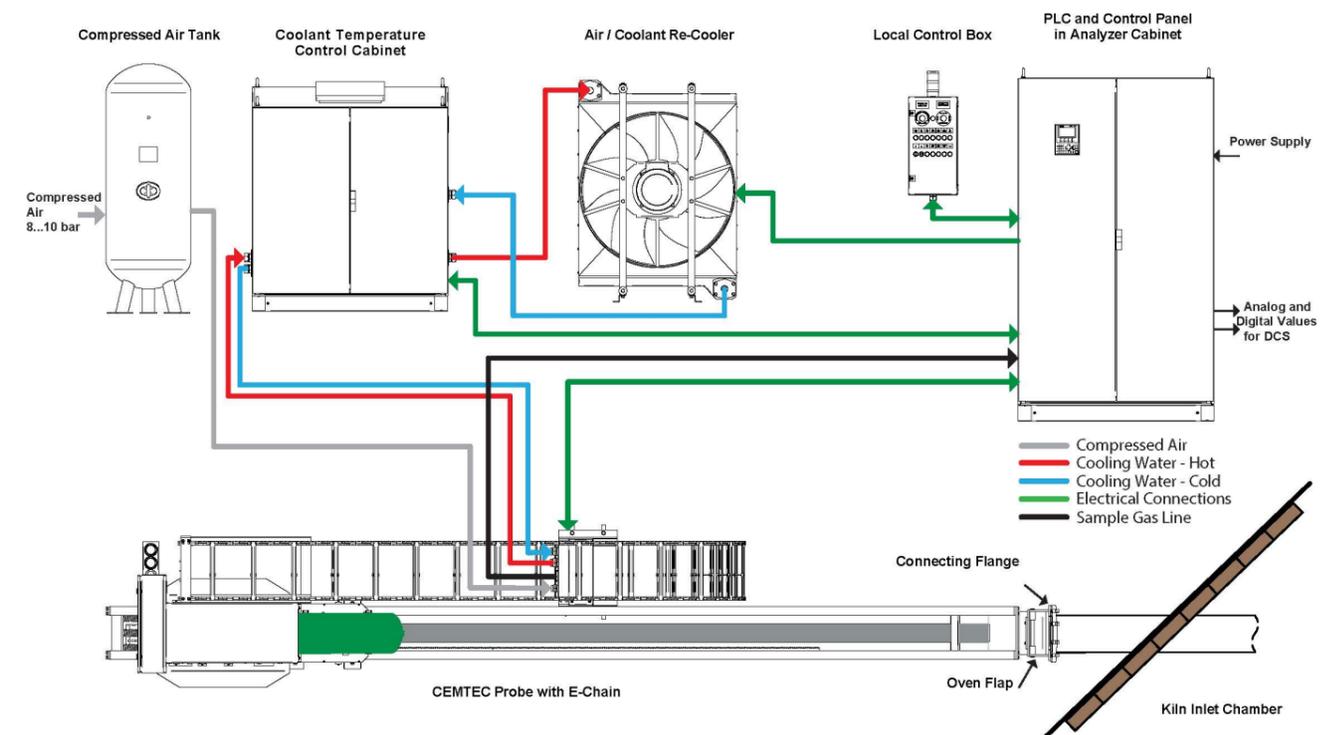
CEMTEC was developed for continuous analysis of flue gas in rotary kilns and other extremely dusty high-temperature processes with the goal of increasing product quality with a reduced fuel use while simultaneously reducing harmful emissions.

Particularly in view of the increasing usage of alternative fuels in rotary kilns and large combustion chambers, the on-site gas analysis has become ever more important. With its exclusive technical highlights, CEMTEC provides an optimal solution for permanent measurement under these challenging conditions.



MAX. FLUE GAS TEMPERATURE	≤ 1400°C	GAS ANALYSIS	In-situ: O <sub>2</sub> / CO <sub>2</sub> extractive: SO <sub>2</sub> ; NO <sub>x</sub> ; CO <sub>2</sub> etc.
MAX . DUST LOAD	up to 2000g/m <sup>3</sup>	MEASURING ACCURACY O <sub>2</sub>	± 0,2% of measured value min. 1 ppm O <sub>2</sub>
FUEL TYPES	Coal, oil, alternative fuels	MEASURING RANGES	0 - 2% O <sub>2</sub> to 0 - 25% O <sub>2</sub> 0 - 500 ppm CO <sub>2</sub> to 0 - 10.000 ppm CO <sub>2</sub>
IP CODE	IP54	OUTPUT SIGNALS	2 x 4-20mA
PROBE LENGTHS	up to 3350 mm (others on request)	POTENTIAL FREE CONTACTS	Limits and alarms
PROBE DIAMETER	114 mm	COOLING WATER	up to 3000 l/h (for w/w re-cooler)
PROBE MATERIAL	1.4571 (others on request)	WATER QUALITY	Drinking water
PROBE COOLANT	water / coolant or air / coolant	AIR PRESSURE	6-8 bar, dry and oil free
PROBE PROPULSION	Pneumatic	MAINS VOLTAGE	380VAC – 560 VAC 50/60 HZ
EMERGENCY RETRACTION	Pneumatic	WEIGHT	700 kg
SWIVEL DRIVE	+/-45°		

**CEMTEC System Overview**  
(with air/coolant re-cooler)



**CEMTEC®**  
SAFE AND CLEAN COMBUSTION

**COMPANY**

ENOTEC has provided gas sensing solutions since 1980, producing products with a high degree of accuracy, quality and durability - Made in Germany.

Our flexibility allows us to quickly develop solutions individually designed to meet your problems.

On request, we also offer after delivery service concepts - the world over.

**SYSTEM FEATURES**

- > Swivel drive
- > Automated self cleaning
- > Mechanical cleaning
- > Emergency retraction
- > Integrated O<sub>2</sub> / CO<sub>e</sub> InSitu analysis
- > Air / air-heat exchanger
- > High quality workmanship

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The ENOTEC product configurator: Configure your analyzer in 5 minutes.



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