

# Multi-component Analyzer System ACF-NT

Emission monitoring in combustion processes



# ACF-NT: Powerful and cost-effective

## Are you looking for:

- A reliable analyzer system to accurately measure the composition of your plant's exhaust gases?
- A turnkey system featuring trouble-free operation, right from the start?
- A system whose simplicity makes it easy to operate and maintain?
- A reliable partner that provides you with worldwide support?

Then ABB is the right partner for you. We offer cost-effective solutions that comply with all regulatory requirements. We provide turnkey systems that enhance and upgrade your existing systems.

## Typical applications

- Municipal waste incinerators
- Biomedical waste and sludge incinerators
- Hazardous waste incinerators
- Gasification and pyrolysis processes
- Cement kilns
- Solvent recovery and destruction
- DeNOx and DeSOx of power plants
- Crematoria
- Steel and aluminum smelters
- Brick, tiles and glass manufacturing
- Catalyst protection monitoring
- Combustion research



## The analyzer system ACF-NT offers:

- Proven hot/wet extractive measurement
- Powerful FTIR technology
- Completely pre-engineered systems with a compact and modular design
- A single sample inlet for all sample gases with a unique air-driven aspirator pump
- Low cost of ownership, maintenance and installation
- Communication, control and maintenance via fieldbus and Ethernet, TCP/IP or modem



## Everything under control

ABB is the only supplier offering all standard analyzer modules, such as FTIR, FID and ZrO<sub>2</sub>, thus ensuring that the ACF-NT works as a truly integrated CEMS system, with a simple, easy-to-understand user interface.

Furthermore, ACF-NT offers extensive communication capabilities. All system parameters allow remote monitoring.

# Emission monitoring in combustion processes

## Powerful and accurate

ABB's multi-component analyzer system, ACF-NT, combines the advantages of an infrared spectrometer using Fourier transformations with the proven technology of FID and ZrO<sub>2</sub> analyzer modules.

There is no need for frequent calibration. The high resolution FTIR spectrometer provides selective infrared measurement of the active gas molecules with great sensitivity and stability.

The proven FID and ZrO<sub>2</sub> sensors measure the unburned hydrocarbons and the oxygen content. Even for exhaust samples with high moisture levels, the accuracy of this new system has been certified by the German Technical Inspections Association (TÜV) following a six month test period.

## Technical data – ACF-NT

- High resolution infrared spectrometer using Fourier transformations for IR absorbent gases
- Zirconium oxide analyzer for oxygen
- Flame ionization analyzer for unburned hydrocarbons
- Standard measuring capability for up to 12 gas components, which can be expanded upon request

## Typical sample components and measuring ranges

	mg/Nm <sup>3</sup>	ppm		mg/Nm <sup>3</sup>	ppm
HF	0...5 <sup>2)</sup>	0...5	SO <sub>2</sub>	0...75 <sup>1)</sup>	0...25
HCl	0...15 <sup>1)</sup>	0...10	CO	0...75 <sup>1)</sup>	0...60
NH <sub>3</sub>	0...15 <sup>1)</sup>	0...20	NO	0...200 <sup>1)</sup>	0...150
TOC	0...15 <sup>1)</sup>	0...20	O <sub>2</sub>	0...25% <sup>1)</sup>	
NO <sub>2</sub>	0...40	0...20	H <sub>2</sub> O	0...40% <sup>1)</sup>	
N <sub>2</sub> O	0...50	0...25	CO <sub>2</sub>	0...20% <sup>1)</sup>	

1) Ranges according to TÜV approval  
2) Range TÜV-tested

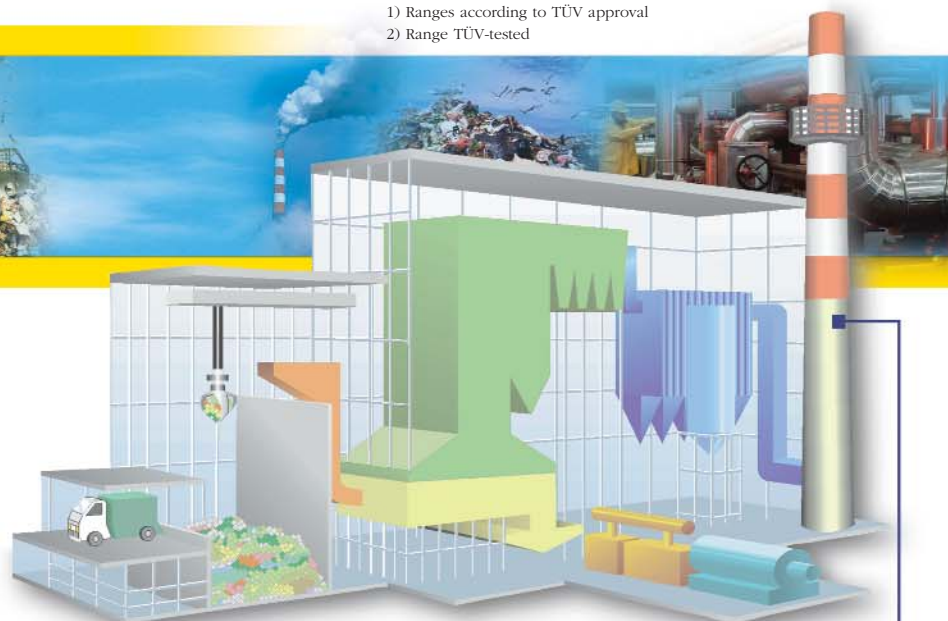
## Cost effective solution

Through the use of several innovative design concepts, such as the FTIR spectrometer with split architecture and the trouble-free aspirator pump module, the analyzer system requires even less routine maintenance: Thus minimizing downtime and increasing the product's operational availability. TÜV certification confirms that the system's availability is over 97% and meets the availability criteria of the EC directive 2000/76/EC on waste incineration.

The equipment is also designed to integrate signals from other sensors, such as dust, flow, or mercury sensors and thereby ensure standardized communications.

## ABB – a dependable partner

- More than 10 years experience with FTIR spectrometers in process gas analysis
- More than 500 installations world-wide



- Limit of detection: < 2% of the measuring span
- Zero-point drift: Corrected automatically
- Sensitivity drift: None
- Detection limit: Typically < 2% of the measuring range
- Cross sensitivity: < 4% of the measuring range
- Availability: > 97% as confirmed by TÜV
- Response time: T<sub>90</sub> < 150 sec. incl. sampling
- Meets all certification requirements according to QAL1 (EN14956)



# Analyzer technology is our strength

ABB is one of the leading international companies in the field of analyzer technology. Thanks to decades of experience, we can develop innovative instruments and systems to meet your company's individual requirements.

And with a distribution network covering over 40 countries, ABB's know-how is available to you – worldwide.

Naturally, after any purchase after-sales services are just as important to you, as they are to us. That's why we offer you a broad spectrum of specialized services, such as: continuous maintenance, analyzer system modifications and troubleshooting etc. We'll be pleased to put together an individual service package for you.

**ABB is your partner: From consulting to project planning, from system installation to after-sales service.**



## Tradition and innovation

More than 75 years of experience in the development and production of analyzers as well as regular contacts with our customers are the basis for our innovative solutions – which have always been the market leader. Under the brandname "Hartmann & Braun", our products for the continuous measurement of process gases have gained an outstanding international reputation and represent the leading edge of technology. Since then, analyzers with the names Uras, Limas, Caldos and Magnos have enjoyed worldwide acclaim and stand for the highest efficiency. Today, more than 30,000 of these analyzers have been installed in virtually every industry – around the world.

The Company's policy is one of continuous product improvement and the right is reserved to modify the information contained herein without notice.

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