

AMEC

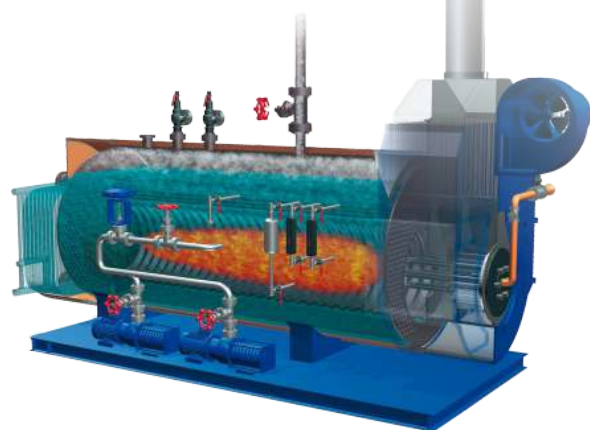
Boiler Emission Monitoring System





AMEC - Boiler Emission Monitoring System

Nowadays manufacturing plants and other industrial environments need to continuously monitor and analyze flue emissions with highly effective and efficient solutions. Cannon Automata is the ideal partner able to offer tailor-made systems based on the specific needs of the customer. AMEC is the solution to continuously monitor and analyze exhaust gases generated by combustion processes. AMEC is designed, developed and installed by our team of experts, it operates as a standalone independent monitoring system, suitable for new or existing installations. Cannon Automata systems comply with environmental regulations to reduce emissions.



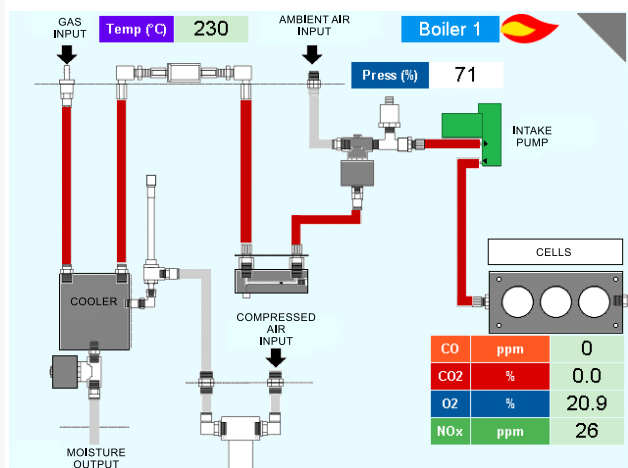
Functioning



AMEC is an extractive exhaust gases analyzer.

The extractive measurement technology removes a sample of gas flow from the flue, conditions the extracted gas through a cooling process and feeds it to an analyzer module based on different electrochemical cells under constant conditions.

Simultaneous and continuous sampling up to 4 exhaust gases O_2 , CO , NO , SO_2 , as well as gas temperature, wet O_2 and numerous parameters calculated like volumetric flow emission, humidity, combustion efficiency, CO_2 , NO_x , and SO_x concentration.



AMEC		
Boiler 1		
RUN		
CO	ppm	0
CO ₂	%	0.0
O ₂	%	20.9
NO _x	ppm	28
SO _x	ppm	
Temp	°C	229





Data Acquisition and Processing

Data Record

- Instantaneous data
- Hourly average
- Daily average
- Moving average 48h
- 7 day moving average
- Monthly average value
- Annual average value

AMEC is equipped with CEMS-Continuous Emissions Monitoring System for data logging, validation and trending. Historical data are updated every 10 sec. for average calculation and data reporting in excel by user definable time period.

The display is also equipped with a USB port for data download.

AMEC Supervisor System, allows to view remotely all information collected by the analyzer: reports, events, alarms, trends & statistics.

HMI 5,7" or 10,4" touch screen allows real time data visualization and easy system diagnostic as well as full download by USB port for data analysis.

Maintenance & Services

Cannon Automata offers a complete assistance and maintenance services.

It is recommended that AMEC is submitted to full maintenance service and recalibration every 6-12 months.

	CELLS REPLACEMENT		ANNUAL CALIBRATION
	DIAGNOSTIC INFORMATION		REMOTE ASSISTANCE
	FULL SERVICE & RECALIBRATION		TRAINING

Advantages

- Quick and easy installation
- Specifically designed for current regulation on emission monitoring
- Modular system up to 6 flue monitoring
- Easy & friendly user interface
- Five years of data stored
- Exhaust gas sampling cells available in different measurement range
- Quick & easy cells replacement
- Data transfer interface available for Management Systems
- Optional environmental enclosure available for non-standard conditions, harsh environments
- Complete multiple language support

Available Solutions: QAL 1 - QAL 2 - QAL 3



AMEC

Boiler Emission Monitoring System



DIRECT MEASURES	UM	DESCRIPTION
Flue Gas Temperature	°C	Probe
O ₂ Dry Oxygen	%	Electrochemical Cell
CO Carbon Monoxide	ppm	Electrochemical Cell
NO Nitrogen monoxide	ppm	Electrochemical Cell
SO ₂ Sulfur Dioxide	ppm	Electrochemical Cell
O ₂ Wet Oxygen	%	Zirconium Oxide Cell
ΔP Differential Pressure	Pa= kg/ms	Probe
CALCULATED MEASURES	UM	DESCRIPTION
η Efficiency	%	Combustion Efficiency
CO ₂ Carbon Dioxide	%	CO ₂ =100 (20,9/O ₂)
NO _x Nitrogen Oxyden	ppm	NO _x =NO/0,95
SO _x Sulfur Oxydes	ppm	SO _x =SO ₂ /0,95
H ₂ O Steam Content	%	H ₂ O = (1- O _{2u} / O ₂)100
V Speed	m/s	$v=K\sqrt{2\Delta P/\rho}$
Q Flow	m ₃ /h	$Q= v \pi (D/2)^2$

PRODUCTS

Components for industrial automation.

- ✓ PAC - PROGRAMMABLE AUTOMATION CONTROLLER
- ✓ I/O MODULES
- ✓ AUTOMATION SOFTWARE
- ✓ FIELDBUS & INDUSTRIAL ETHERNET
- ✓ HMI - HUMAN MACHINE INTERFACE
- ✓ DRIVES

APPLICATIONS

Hardware and software solutions for specific user applications.

- ✓ REMOTE MONITORING & ASSISTANCE
- ✓ ENVIRONMENTAL MONITORING
- ✓ PREVENTIVE MAINTENANCE
- ✓ MACHINE CONTROL & PRODUCTION
- ✓ MOTION & ROBOTICS
- ✓ ENERGY EFFICIENCY

ENGINEERING

Services for engineering projects.

35 years of experience in the automotive, energy, oil & gas and water treatment sectors enable Cannon Automata to present itself as complete and perfect partner for the development of industrial engineering and process projects. Systems are characterized by their high performance, thanks to an approach that is fully oriented to achieve tailored solutions to specific needs.

For the best results in terms of quality and customer satisfaction, Cannon-Automata follows an operative scheme



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