



CUBIC-RUIYI

CEMS
GASBAORD 9050

CEMS Solution





CUBIC-RUIYI

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are



CEMS Gasboard 9050 is available for flue or stack gas processes.

It can be used for measurement of the concentration of CO, CO₂, SO₂, NO and O₂. It is the best tooling to industrial application.

To check whether the gas is still being produced to decide the feedstock cycle and the best ratio.

To check the quality of the gas being produced prior to use in some industrial process.

To check the quality of the gas and optimize the technical process.

Please take physical design shall prevail.



CUBIC-RUIYI

CEMS
GASBAORD 9050

Overview

Application

Core
Components

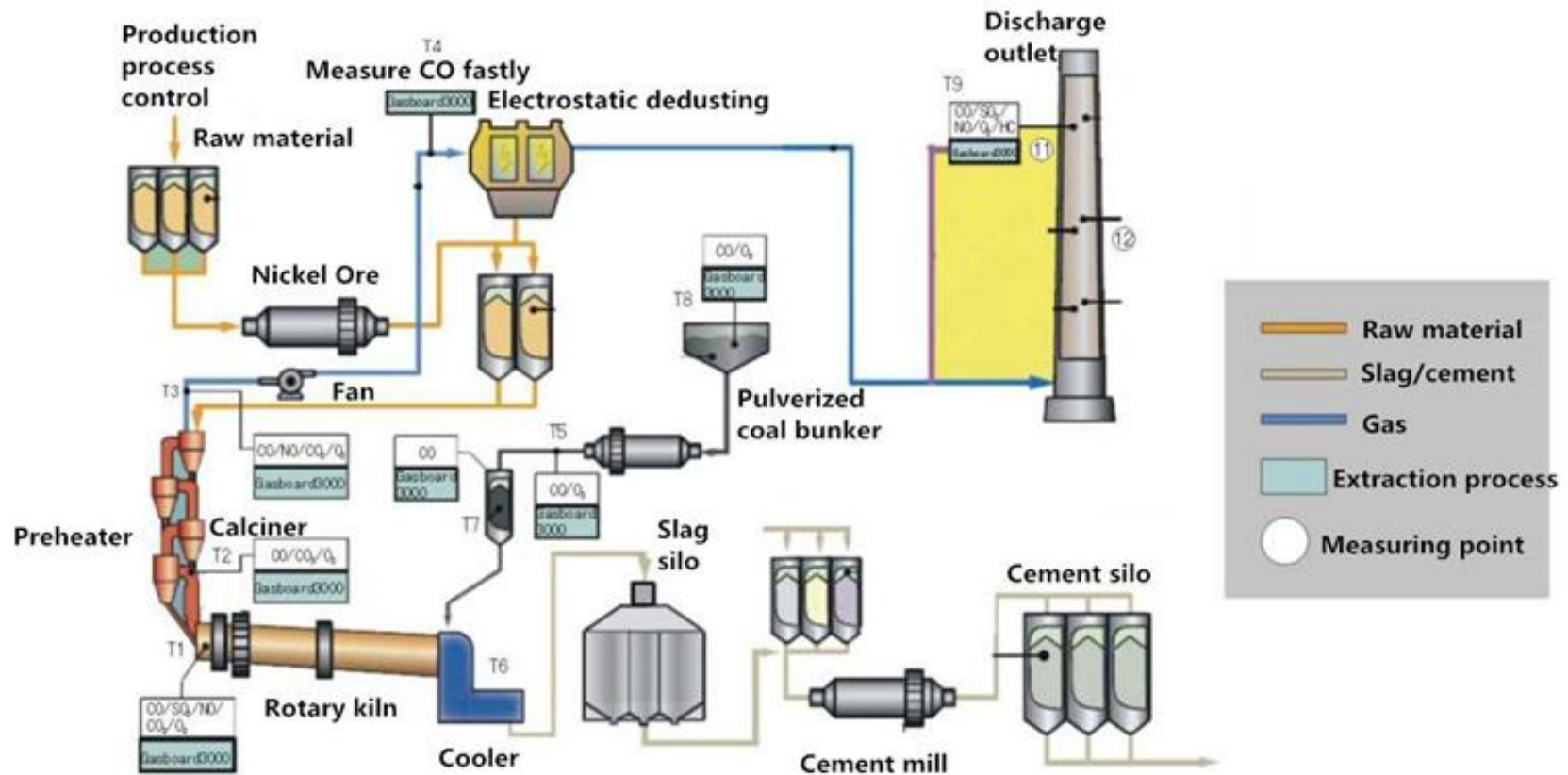
Project
Reference

Why Us

Who We Are

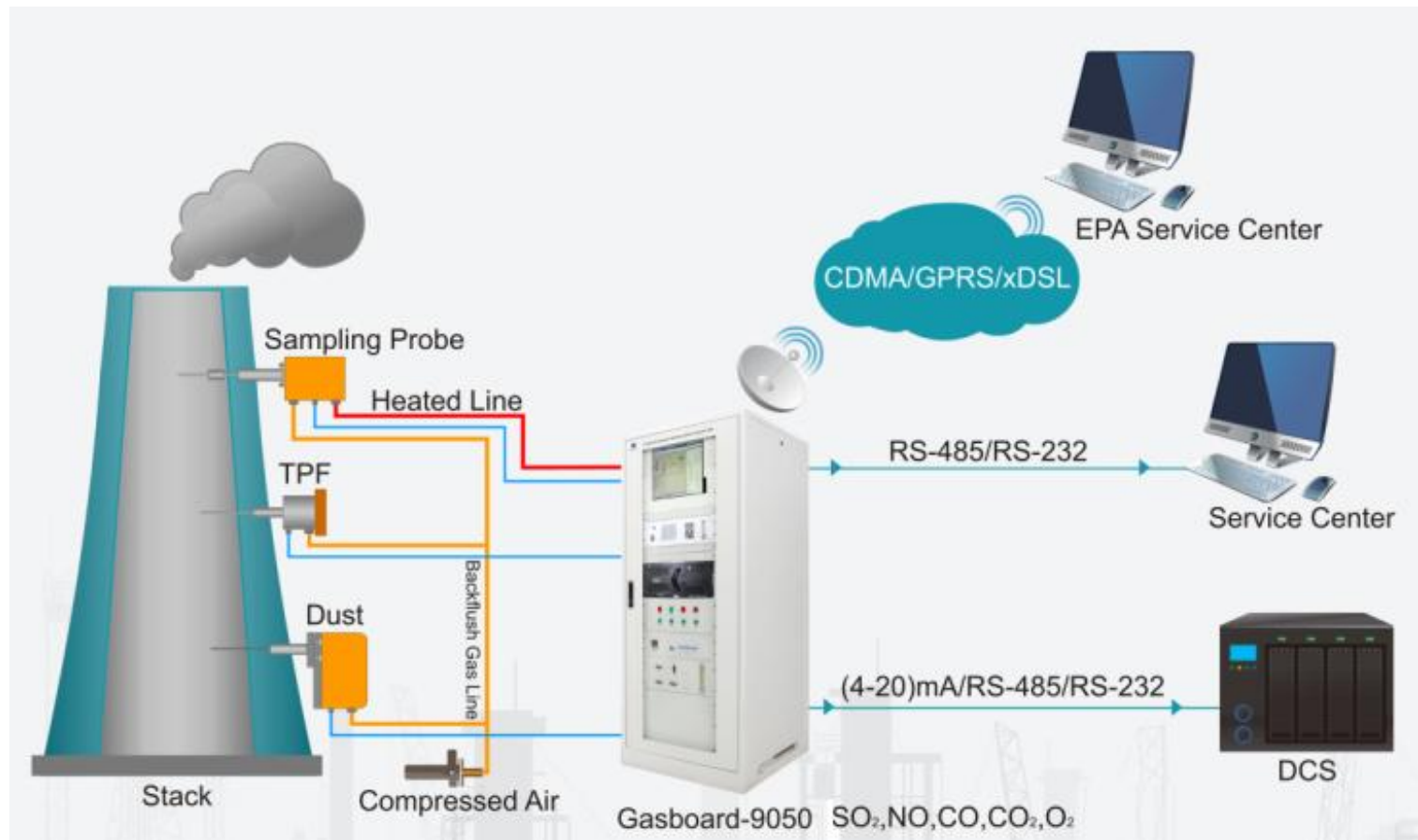
- Industrial production process monitoring.
- Industrial combustion efficiency monitoring.
- Desulfurization process monitoring.
- Denitration process monitoring.
- Industrial furnaces.
- Cement plant.
- Industrial coal-fired boiler.
- Monitoring of process control functions.
- Atmosphere monitoring during heat treatment of steel.
- Incinerators.
- CEMS integrator.

Example of measurement of exhaust gas from a cement (NO, SO₂, CO, CO₂, and O₂ measurement).





Example of measurement of exhaust gas from a boiler or refuse incinerator (NO, SO₂, CO, CO₂, and O₂ measurement).





CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

Instrument Series

It adopts micro-flow infrared technology to measure the CO,NO,SO₂, UV DOAS technology to monitor NO,SO₂. It not only has long life time and high precision advantages but also solved the eliminate the impact of moisture on measurement values and effects of environmental temperature.

Pre-treatment and Sampling System

The professional pretreatment and sampling device can ensure the whole system works stability and accurate for long time.

PLC Controller

It can achieve complete automatically sampling gas, back blowing, alarm and other functions, meanwhile it can monitor automatic for 24 hours to reduce labor costs.

Data Transmission Interface

Measurement data via RS-232/RS-485 and 4-20mA output interface transmit to the DCS system, in order to realize remote.



CUBIC-RUIYI

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

Instrument Series



Analysis Cabinet



Sampling Probe



Compressor Type Gas Condenser



Sampling Heated Line





CUBIC-RUIYI

CEMS
GASBAORD 9050

Overview

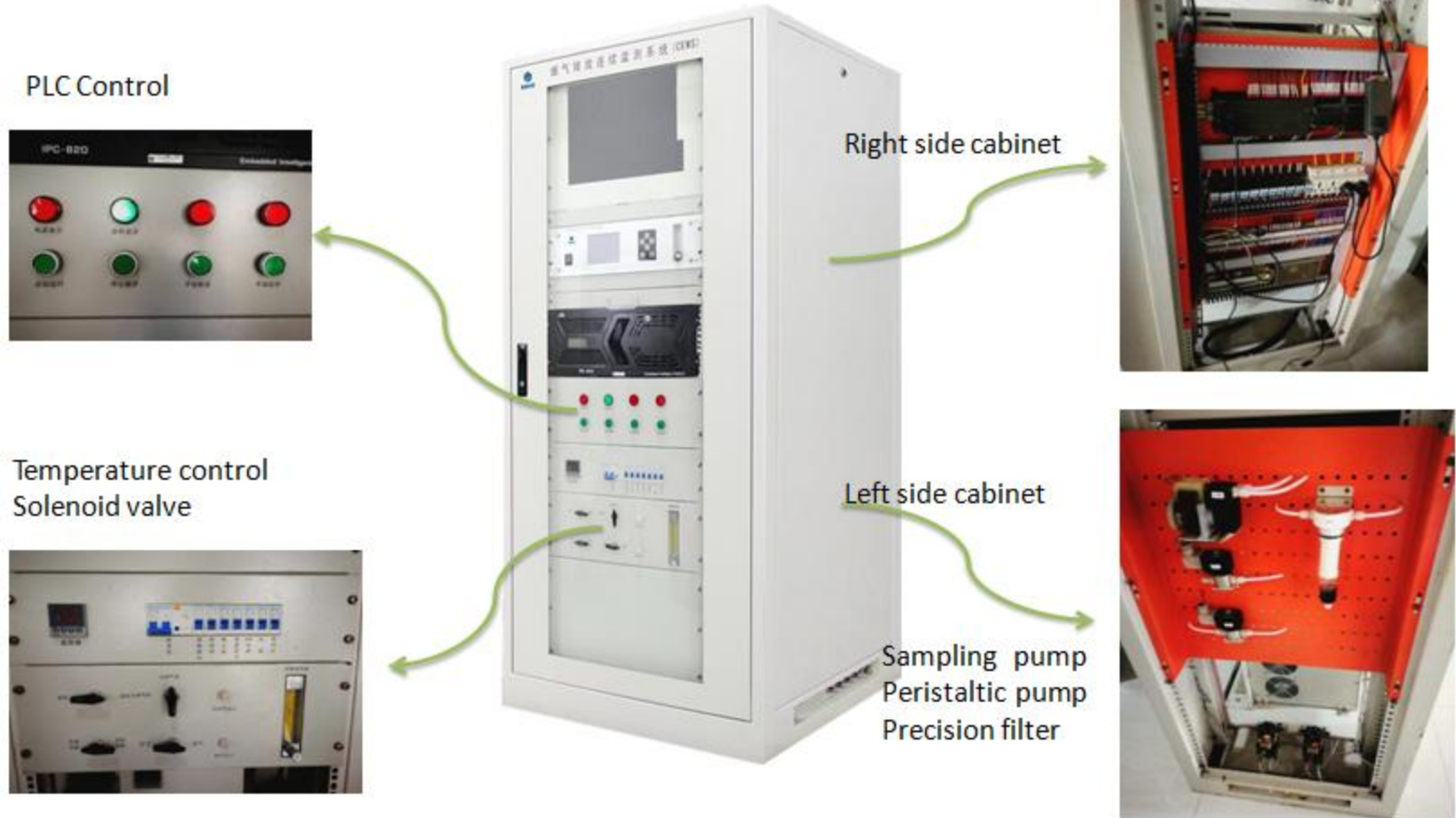
Application

Core
Components

Project
Reference

Why Us

Who We Are





CUBIC-RUIYI

Instrument Series

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are



GASBOARD 3000	NDIR single-beam principle	3 IR components + ECD O2
GASBOARD 3000PLUS	NDIR dual-beam principle	3 IR components + ECD O2
GASBOARD 3000UV	UV DOAS principle	2 UV components + ECD O2



Technical Comparison

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

FTIR Technology	Micro-flow NDIR Technology	UV DOAS Technology
High cost	Low cost	Low cost
Measuring more components	Measuring few components	The single gas chamber can measure 3-5 components
The interferometer is an optical moving part	Eliminate the moisture and ambient temperature interference on measurement	Adopt the full spectrum electronic scanning and have no optical moving parts
Light source easily to age	Light source has long life time	Light source has limit life time
Slow response restricted by the scanning time	Fast response	Fast response
Need preheat	Need preheat	Short preheating time
High measurement accuracy and small drift	High measurement accuracy and small drift	High measurement accuracy and small drift



CUBIC-RUIYI

Compact Enclose Packed With Abundant Functions

CEMS
GASBAORD 9050

Overview

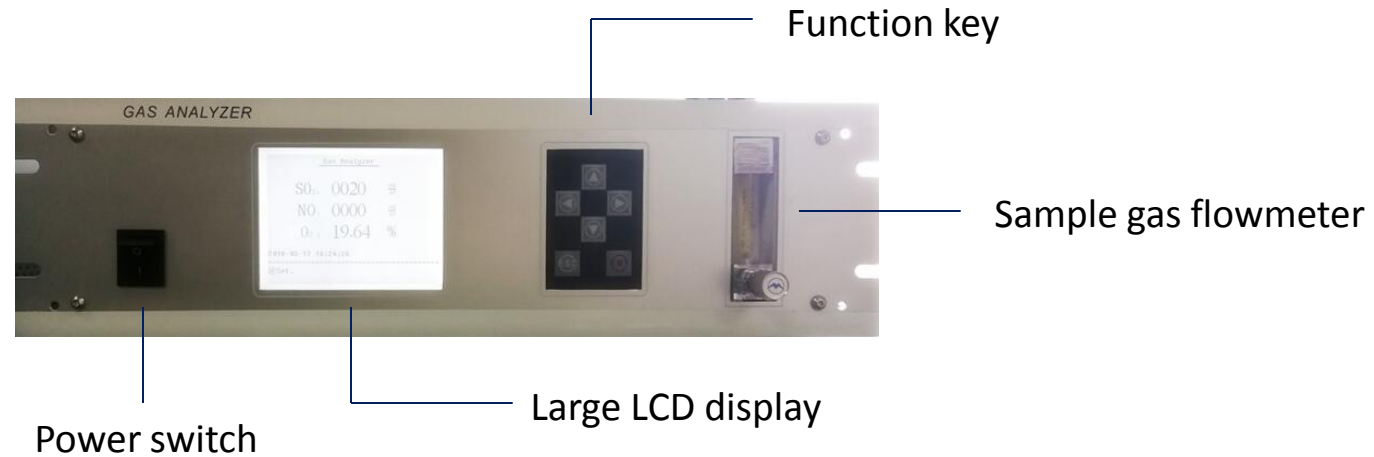
Application

Core
Components

Project
Reference

Why Us

Who We Are



Simple key operation

Enter key

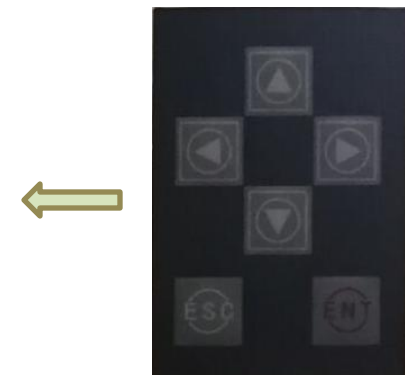
Used to confirm the selected items and numeric values.

Up/down key

Used to switch the items to be selected.

Escape key

Used to return to the previous screen or abort setting midway.





CUBIC-RUIYI

Compact Enclose Packed With Abundant Functions

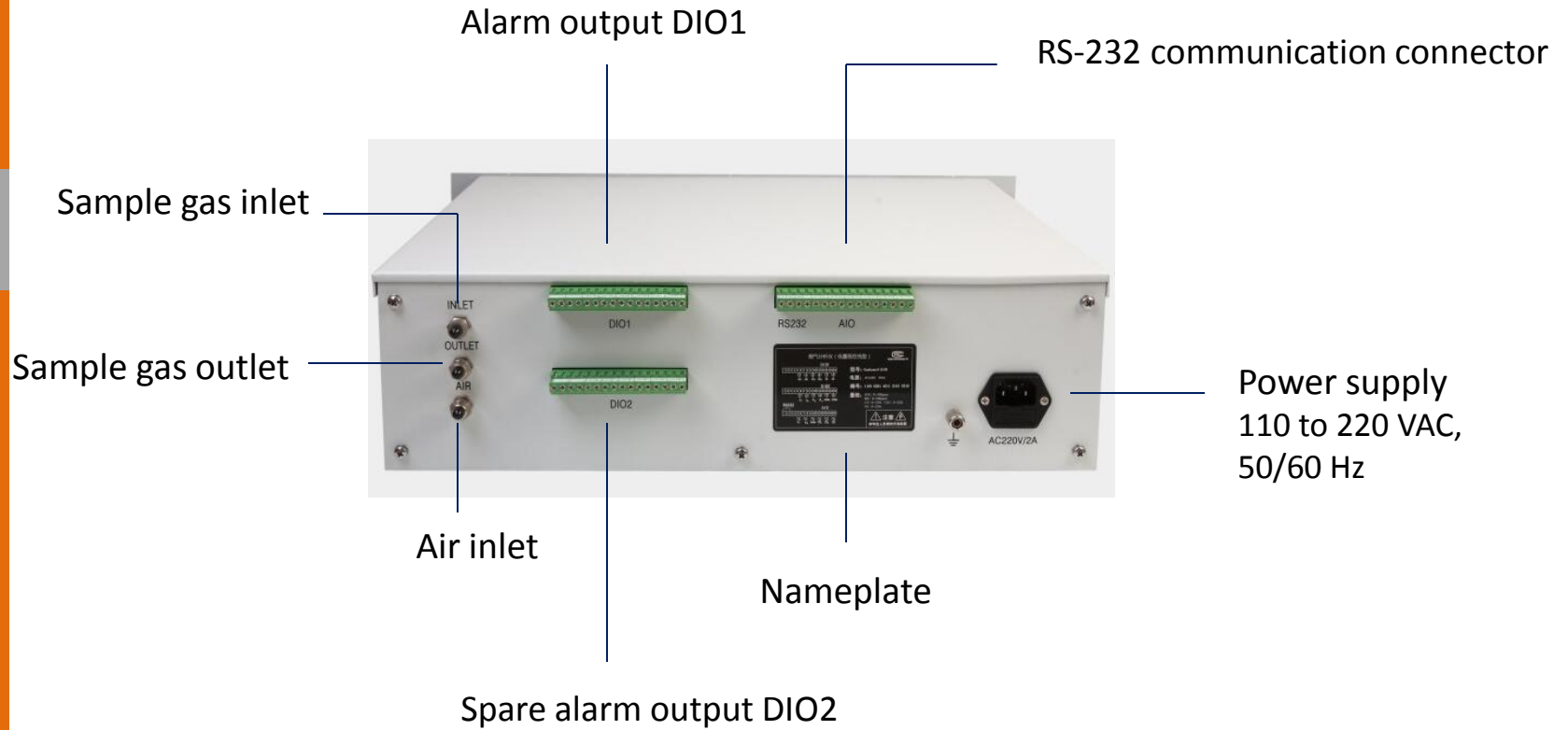
CEMS
GASBAORD 9050

Overview
Application
Core Components

Project Reference

Why Us

Who We Are





CUBIC-RUIYI

Specification Comparison

- CEMS GASBAORD 9050
- Overview
- Application
- Core Components
- Project Reference
- Why Us
- Who We Are

Type	GASBOARD 3000		GASBOARD 3000PLUS		GASBOARD 3000UV
Measurement principle	Single -beam NDIR		Dual-beam NDIR		UV DOAS
	O2: Electrochemical sensor				
Measured components	Minimum range	Maximum range	Minimum range	Maximum range	Range
SO2	0-500ppm	0-5000ppm	0-200ppm	0-500ppm	0-100mg/m ³
NO	0-500ppm	0-5000ppm	0-200ppm	0-2500ppm	0-100mg/m ³
CO	0-500ppm	0-9999ppm	0-300ppm	0-500ppm	/
CO2	0-5%	0-25%	0-5%	0-25%	/
O2	0-5%	0-25%	0-5%	0-25%	0-25%
Accuracy	SO2,NO,CO,CO2 ≤2%FS		SO2,NO,CO,CO2 ≤2%FS		SO2,NO ≤2%FS
	O2: ≤3%FS		O2: ≤3%FS		O2: ≤3%FS
Repeatability	≤1%FS		≤1%FS		≤1%FS
Response time (T90)	15s (90% response from gas inlet)		15s (90% response from gas inlet)		60s (90% response from gas inlet)
Sample gas flowmeter	Built-in				
Structure	Structure Indoor type with steel case				
Mounting method	19" rack mount, panel mount, desktop				
Power supply	110 to 220 VAC, 50/60 Hz				
Dimension	485*457*132 mm (L*W*H)				
Mass	Approximately 18kgs				



CUBIC-RUIYI

Analysis Cabinet and PLC

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

Analysis Cabinet

1. Dimension: 1800*800*650 mm .
2. Material: 2 mm stainless steel .
3. Control system: SIEMENS PLC, automatic control sampling operation.
4. Remove dust: adopt a precision filter and filtration accuracy of 0.1um.
5. Remove water: using dual compression condenser, rapid cooling analysis sample gas and realize the automatic drainage.
6. We also can provide print your logo service.

Programmable Controller - PLC

Model Parameter Information: SIEMENS.

1. Control analysis system of sampling, blowback, drainage, calibration and alarm, to realize the automatic analysis system, reduce manual maintenance.
2. There are several ways linking the factory automation systems to remote monitoring of equipment.



Compressor Type Gas Condenser

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

Model: CEC 201

Product description

1. 2-path compressor gas dryer with 2 Duran glass heat.
2. Exchangers resistant to acid gases.
5. Gas drying efficiency: up to 97%; Max. SO₂ losses: < 2%.
6. Compressor refrigerant: R134a.
7. Gas outlet temperature: $+4^{\circ}\text{C} \pm 0.1^{\circ}\text{C}$.
8. Temperature stability: $\pm 0.2^{\circ}\text{C}$ (@ Tamb 25°C).
9. Max. gas inlet temperature/dew point: $\leq 180^{\circ}\text{C}/\leq 80^{\circ}\text{C}$.
10. Max. gas flow/pressure: 250L/h – 3 bars.
11. Ambient operation temperature: +5 to +45°C.
12. Sample gas/drainage interface size: $\varnothing 6$.
13. Dimensions: W275 x H300 x D370mm.
Weight: 23Kg.
14. Power supply: 220V $\pm 10\%$ 50Hz - 250VA.
15. Warm-up time: < 15min.



CUBIC-RUIYI

Project Reference

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are



Customer Design



CUBIC-RUIYI

Project Reference

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are





CUBIC-RUIYI

Project Reference

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are





CUBIC-RUIYI

Project Reference

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are





CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are

Company Strength

Cubic-Ruiyi is a professional NDIR instruments manufacturer, we own long time R&D experience on NDIR gas sensors in China over 15 years. We have won high reputation in market and had exported to over 70 countries in the past years.

Technical Advantages

GASBOARD 3000 series adopts of our unique Micro-flow NDIR and UV DOAS technology, the sampling flow and gaseous water in flue gas has no effect on SO2 and NO measurement.

Why Us

Instrument Performance

GASBOARD 3000 series has high precision and stable performance, widely used industrial flue gas monitoring. We have three types for client choose based on different demands.

Most Cost-effective

Cubic-Ruiyi as a instrument manufacturer, we are able to supply the most cost-effective instrument solution to our clients.



CUBIC-RUIYI

Who We Are

CEMS
GASBAORD 9050

Overview

Application

Core
Components

Project
Reference

Why Us

Who We Are



Hubei Cubic-Ruiyi Instrument Co., Ltd. is a high technology company who is specialized in development, production and sales of biogas analyzers, ultrasonic gas flowmeters and total solution on biogas quality and quantity monitoring. Based on core sensor technology of infrared (NDIR), thermal conductivity TCD, ultrasonic, laser Raman developing, Cubic-Ruiyi has successfully developed biogas analyzers and gas flowmeters, syngas analyzers, flue gas analyzers, automobile emission gas analyzers and so on. We offer comprehensive support package to all customers for all of our products.

Cubic-Ruiyi keep developing on performance upgrading, technology improving, to make biogas monitoring more innovative and user-friendly. Our aim is make every effort to promote renewable energy and environment protection development.

Cubic-Ruiyi Is a subsidiary company of Wuhan Cubic (www.gassensor.com.cn)





CUBIC-RUIYI

CEMS
GASBAORD 9050



Hubei Cubic-Ruiyi Instrument Co., Ltd

TEL: +86-27- 81628831

FAX: +86-27-87401159

Email: info@gasanalyzer.com.cn

Web: <http://www.gasaanlyzer.com.cn>

Add: Fenghuang No.3 Road, Fenghuang Industrial Park,
Eastlake Hi-tech Development Zone,Wuhan, 430205, China