CUBIC-RUIYI

GASBOARD
3000 SERIES

ONLINE FLUE GAS ANALYZERS

GASBOARD 3000 SERIES

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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

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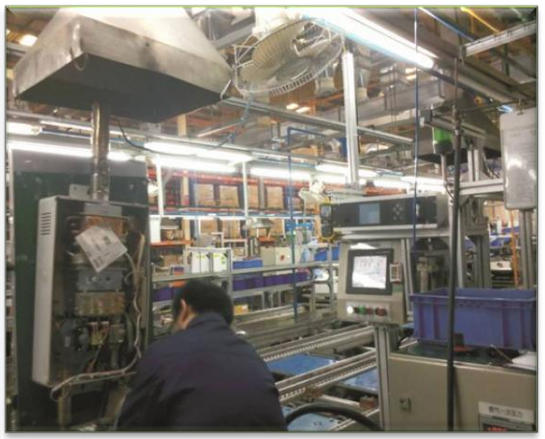
GASBOARD 3000 SERIES

GASBOARD 3000 series flue gas analyzer are independently developed by Hubei Cubic-Ruiyi Instrument Co.,Ltd., based on years of experience in research and development, for domestic and overseas environmental and industrial control monitoring online analysis.

Based on micro-flow infrared and UV DOAS technology, these analyzers are able to measure the SO2,NO,CO,CO2. With high accuracy and reliability, fast response time, wide self-developed and industrial measurement range and application fields.

They are widely used in environmental online monitoring, industrial process control, safety monitoring, integrate into CEMS, etc.



- 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.

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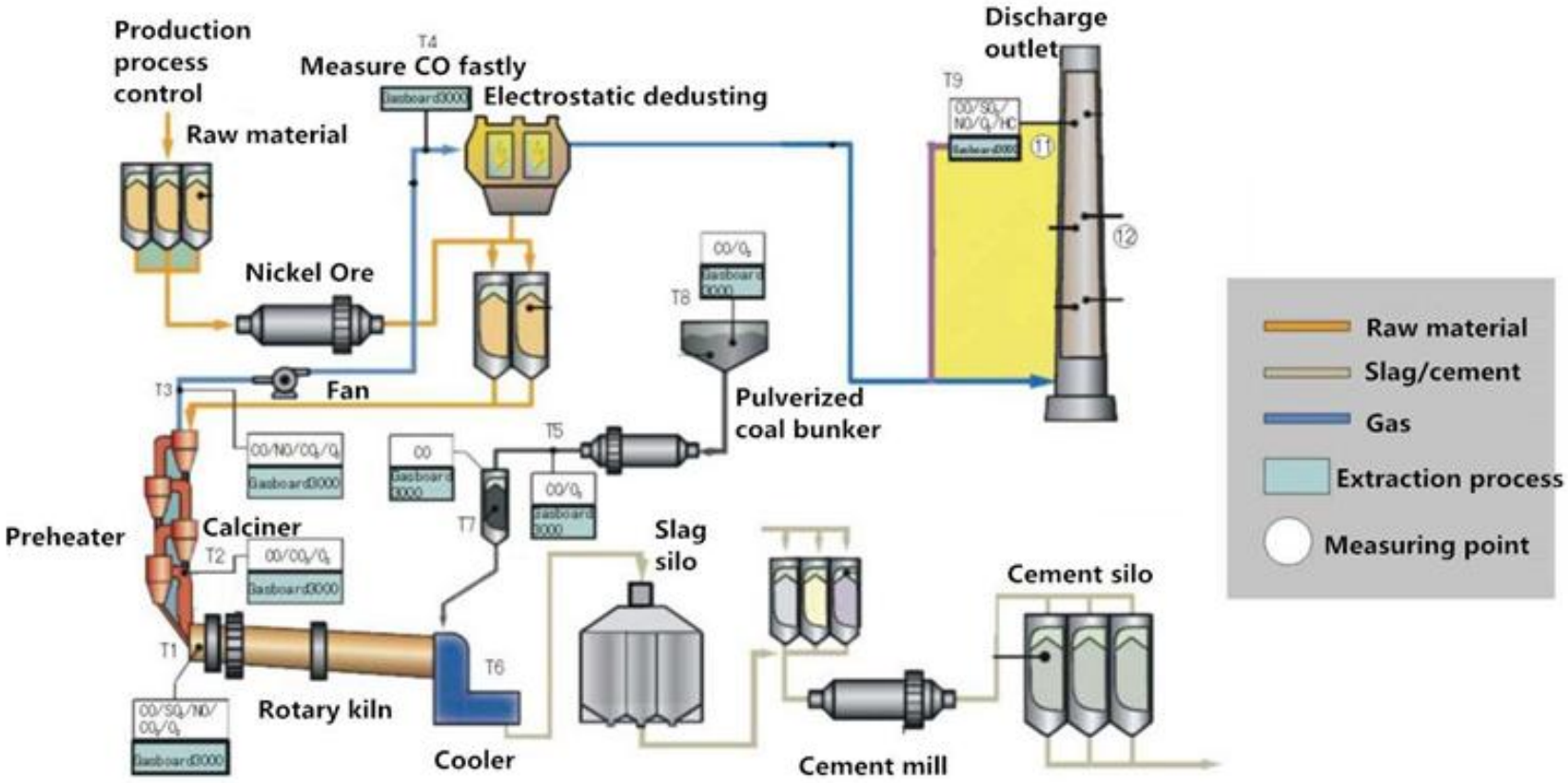
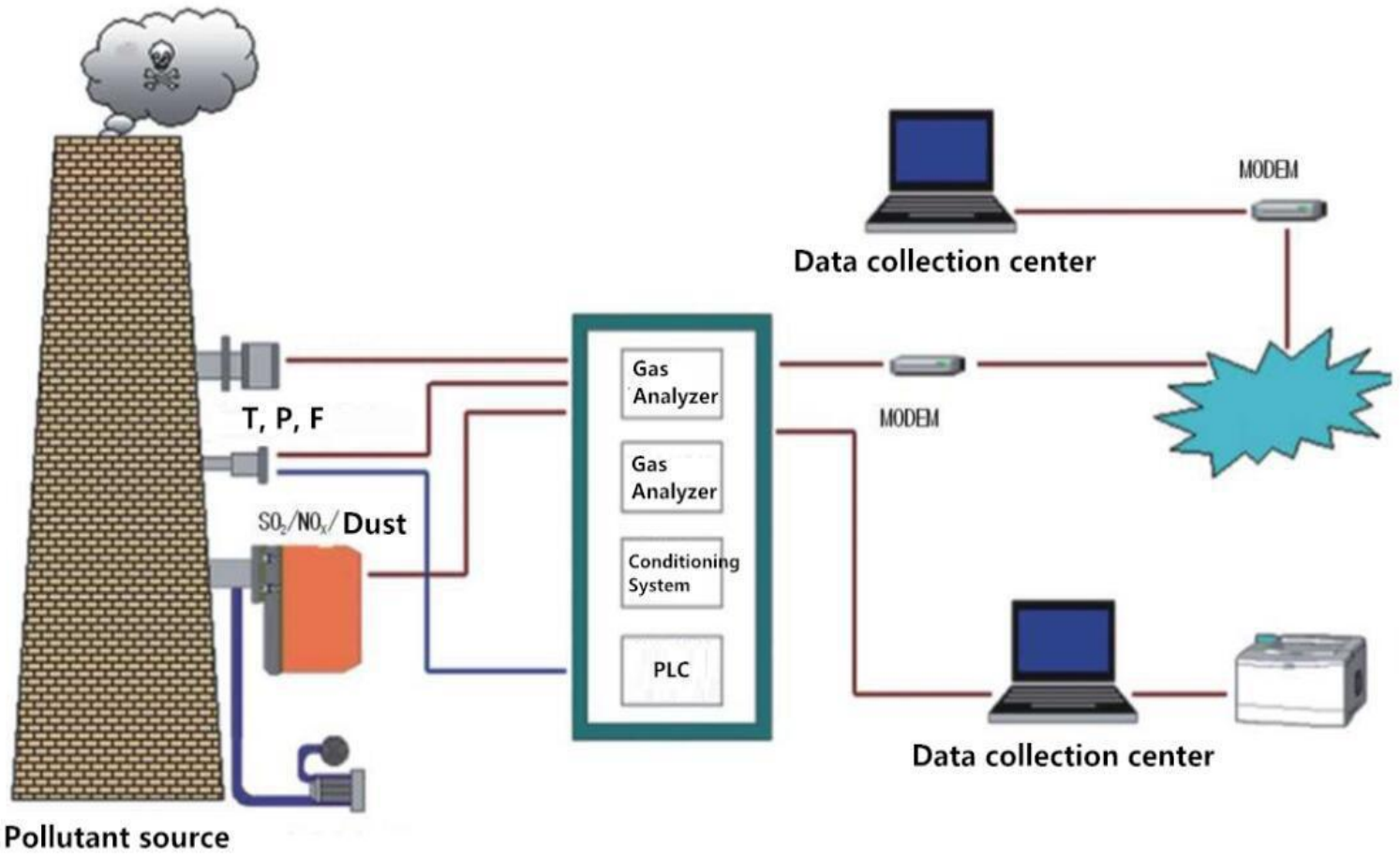
Example of measurement of exhaust gas from a cement (NO, SO2, CO, CO2, and O2 measurement).



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



Project Reference

Customer Design

Project Reference

Compact Enclose Packed With Abundant Functions

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.

Compact Enclose Packed With Abundant Functions

Alarm output DIO1

RS-232 communication connector

Sample gas inlet

Sample gas outlet

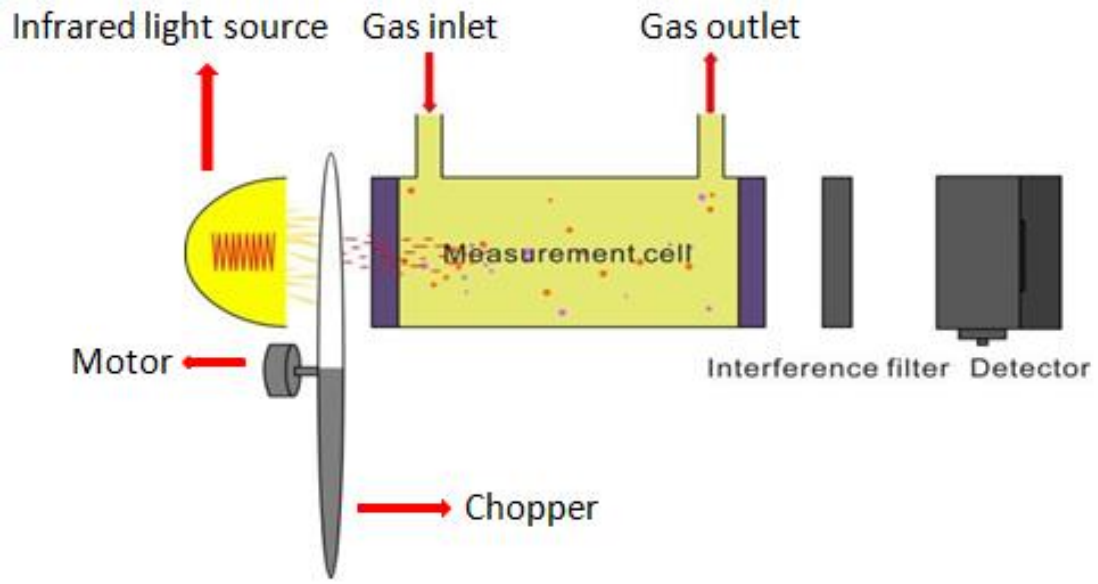
Power supply
110 to 220 VAC,
50/60 Hz

Air inlet

Nameplate

Spare alarm output DIO2

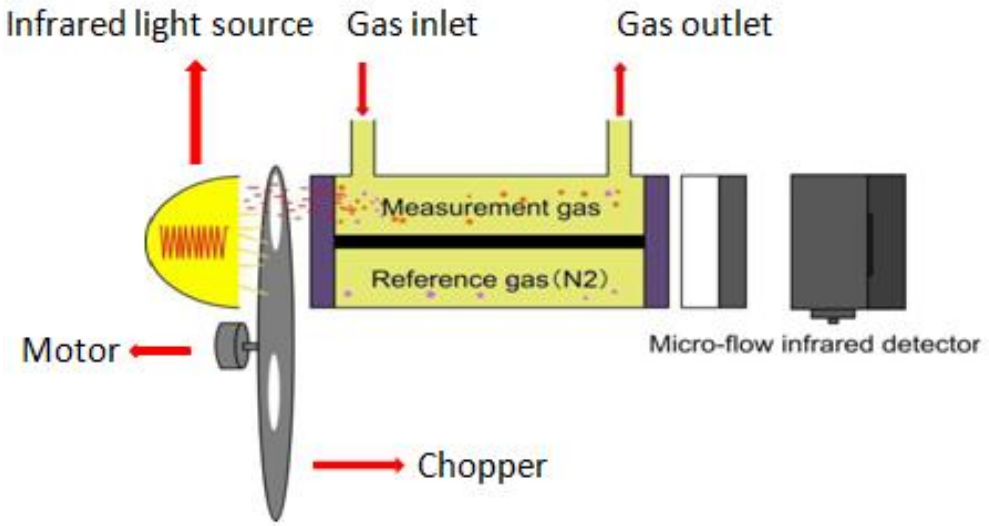
GASBOARD 3000 Adopts of Our Unique Single-beam Infrared Sensor



This spectroscopic method is based on the absorption of nondispersive IR radiation. The attenuation in the radiation which depends on the wavelength is a measure of the respective concentration of the gas.

Excellent prolonged stability, easy maintenance, and high-precision measurement within 2%FS.

GASBOARD 3000PLUS Adopts of Our Unique Dual-beam Infrared Sensor

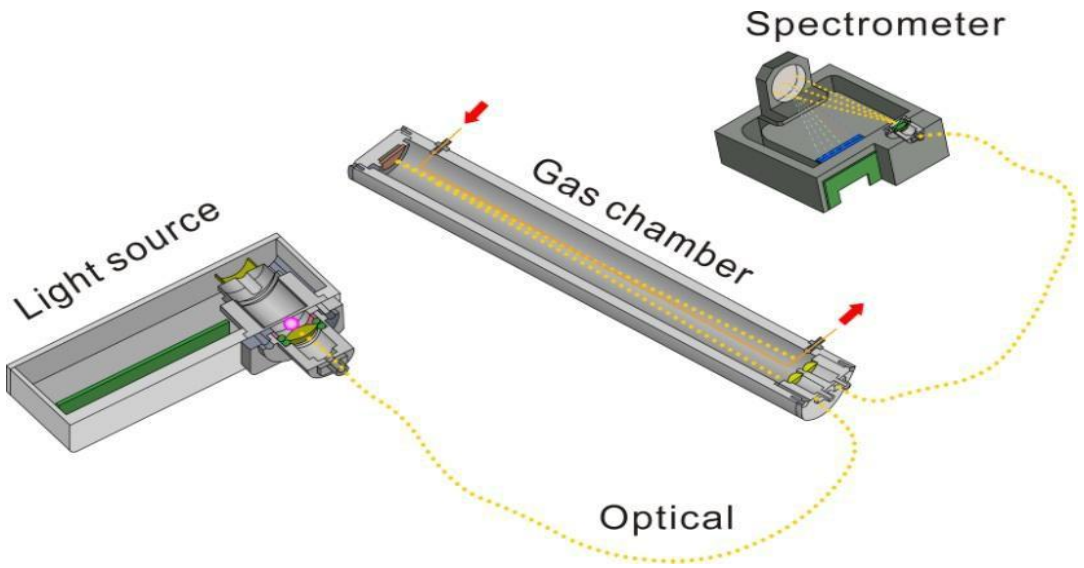


It adopts dual beams gas cell structure , one of the gas cell is injected measurement gas, another one gas cell is filled with reference gas, then micro-flow infrared sensor output the signal change , comparison between measured gas variation and reference gas signal to get the precise measurement result.

It is almost unaffected by the influence of the external environment like temperature fluctuations, voltage fluctuations, at the same time, it ensure excellent prolonged stability, easy maintenance, and high-precision measurement within 2%FS.

Gasboard 3000PLUS is a good tool for monitoring flue gas lower range.

GASBOARD 3000UV Adopts of Our Unique UV DOAS Technology



Gasboard 3000UV uses optical technology bench to obtain absorption spectrum, which is composed of light source, gas chamber, optical fiber and spectrometer.

Light source: Adopting xenon flash lamp which has long life time and good stability.

Gas chamber: Adopting long optical path reflection gas chamber which has high sensitivity and strong signal absorption.

Spectrometer: Adopting high precision slits, holographic concave gratings, and CMOS sensors, the UV-band spectral response is fast, wavelength accuracy is high, and resolution is good.

Technical Comparison

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

Specification Comparison

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/m³
NO	0-500ppm	0-5000ppm	0-200ppm	0-2500ppm	0-100mg/m³
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

Why Us

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.

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.

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)

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3000 SERIES

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