

## BI 2000 Zirconia Oxygen Analyzer

BI 2000 is an in-situ analyzer.

This instrument is specially designed for oxygen measurement in combustion processes, typically to improve the combustion efficiency by monitoring and controlling excess air in flue gas.

It is accurate, consistent and reliable even in closed loop control applications.

The characteristic of zirconia cell enables the oxygen analyzer to provide exceptional sensitivity at low oxygen concentration



### Measurement of gas concentrations

Standard version with one oxygen sensor for O<sub>2</sub> measurement

### Measurement of other parameters

Measurement of probe temperature and stack temperature  
Measurement of ambient temperature

### Calculation

Boiler efficiency  
Calculation of all relevant parameters

### Processing and presentation of measuring data

Online measurement  
Powerful PC program for analyzer settings and data communication  
All results shown on display

### Software capabilities

Data logger for storing oxygen values  
Table and graph presentation of data  
Integration of multiple systems

## Converter capabilities

Microcontroller based smart unit  
 Full graphic display LCD  
 Built-in multi-meter for voltage & current measurement  
 RS-422C interface and multifunctional PC program  
 Display facility of cell temperature and emf  
 Wall mounting and powder coated IP 65 enclosures as per the industrial standards. Ex proof as option.  
 One isolated and linear 4-20mA current output  
 Contact o/p: 4 points  
 In-built PID controller  
 Programmable events incase of sensor, heater, thermocouple & other failure  
 Operating temperature 10 °C ÷ 50°C

## Probe technical data

Oxygen measurement range 0-10%,  
 0-25% & 0-100% programmable  
 Insertion length 18", 36" and 72"  
 Repeatability ± 0.5%  
 Response: T90 less than 3 Sec  
 Sample gas temperature 10 °C to 760 °C  
 Probe material SS 316  
 Power supply 110 VAC, 50 Hz  
 Installation flange mounting  
 Power requirement 150 Watts



Parameter	Measuring method	Range	Resolution	Accuracy	Time (T90)
O <sub>2</sub> - oxygen, volumetric concentration	Zirconia cell Nerst equation	0..10% 0..25 % 0..100%	0.01 %	2% rel.	3 s
T <sub>gas</sub> - flue gas temperature	Thermocouple	-10..1000°C	0.1 or 1°C set by user	± 2 °C or 1.5 % rel.	30 s
T <sub>amb</sub> - ambient temperature	Thermistor	-10..100°C	0.1 or 1°C set by user	± 1 °C	30 s
Eta - efficiency	calculated	0..100%	0.1%	0.1%	

## Bhoomi Analyzers

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