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DRM Technic

Suppliers of Gas Analysis Equipment

**BA2000 In-Situ Zirconia
Analyser Series - Oxygen**

BA2000 SERIES IN-SITU OXYGEN FLUE GAS ANALYSER

In combustion applications, the amount of air needed to reach the optimum system efficiency can vary rapidly. The BA2000 allows you to reach the optimum heat rate for these units, even if they lie within narrow limits.

The unique fast loop design continuously provides a fresh sample gas stream to the zirconium oxide sensor. The sensor enclosure is heated to the 180 °C to avoid condensation. The measurement cell is protected against particulates by a heated filter. The BA2000 can be used with these filters for dust loads up to approx. 2 g/m³; when the dust load exceeds this limit, additional in-situ filters are available.



FEATURES

- **Reliable and Fast Results**
- **Durable ZrO₂ Cell**
- **No Gas Conditioning Needed**

SPECIFICATIONS

Product No.	BA2000-MF	BA2000-SE	BA2000-CREM
Option	w/ Sample Gas Recovery	w/ separated electronics	for high-temp/dust applications
Sample Tube Length	0.5 m ... 1.5 m		
Mains Supply	115/230 V, 50/60 Hz		
Power Consumption	400 W		
Measuring Range	0.1 to 21 Vol.-% O ₂		
Signal Output	4-20 mA = 0 - 21 Vol.-% O ₂ (scalable 0-2.5 / 0-5 / 0-10 / 0-15)		
Accuracy	Relative error > 5%		
T ₉₀ -time Sensor	> 15 sec		
Alarm Sensor	Upper and lower limit of normal value for heating and O ₂ concentration		
Alarm Probe	Insufficient temperature		
Ambient Temp.	- 20 ... + 70 °C		
Process Temp.	> 16 °C depending on sample tube		
Probe Operation Temp.	Max. 200 °C		
Probe Material	SS 1.4571		
Gas 1-point cal.	Instrument air, 20.9 Vol.-% O ₂		
Gas 2-point cal.	Instrument air, 20.9 Vol.-% O ₂ and calibration gas 0.1 ... 15 Vol.-% O ₂		

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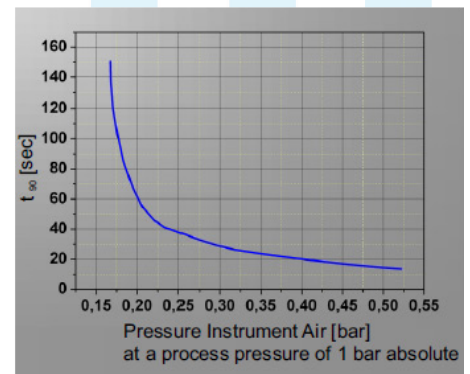
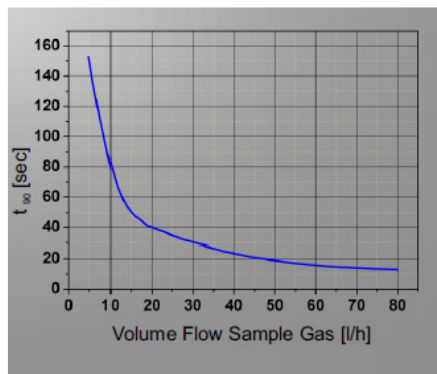
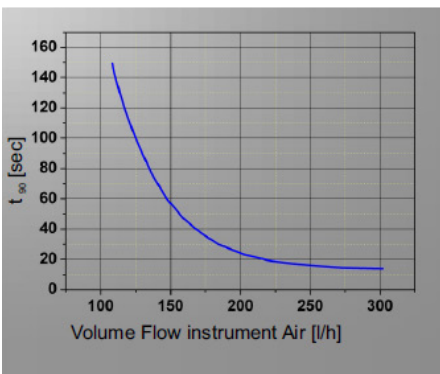
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MEASURING PRINCIPLE OF O₂-MEASUREMENT USING ZrO₂ CELLS

The BA2000 uses a **potentiometric cell**. The electrical conductivity of zirconia dioxide rises exponentially with increasing temperature and reaches high enough values above 600°C. Reference electrode and sample gas electrode are separated by the gas-tight ZrO₂ tube in two volumes with different partial pressure of oxygen. At the electrodes, an e.m.f. (electromotive force) is produced which is proportional to the difference of the partial pressures of oxygen.

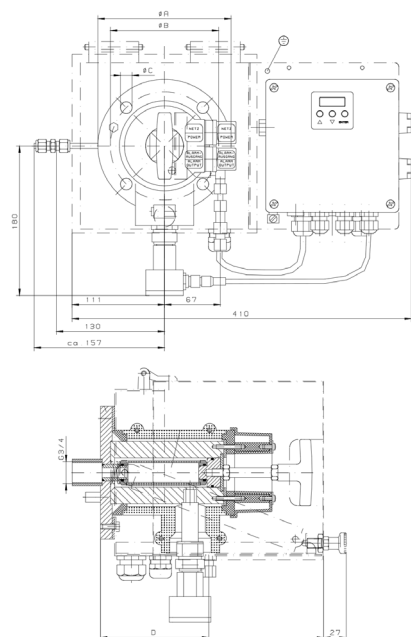
t₉₀-INTERVAL AGAINST VOLUME FLOW AND PRESSURE



OPTIONS AND ACCESSORIES

Product No.	Description
Options	
BA-2000	Standard Version
BA-2000-MF	Version with Separate Sample Gas Recovery
BA-2000-SE	Version with Separated Electronics up to 15m (approx)
BA-2000-CREM	Version Specifically Designed for High-Temperature and High-Dust Applications
Accessories	
55200001	Adaptor flange - DN65 PN6 to Thermox
55200002	Adaptor flange - DN65 PN6 to Thermox
552000011	Adaptor flange - DN3-150 to Servomex
552000021	Adaptor flange - DNS-150 to Thermox

TECHNICAL DRAWINGS



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