

ZIROX Oxygen Probe KS20

Properties

The main part of the oxygen probe KS20 is a potentiometric solid electrolyte cell (ZrO_2 sensor). Due to different oxygen concentrations at the electrodes (ambient air at reference electrode), a voltage arises which is proportional to the logarithm of the oxygen concentrations. From the cell voltage the oxygen concentration at the measuring electrode can be calculated with the NERNST Law.

The KS20 is calibration-, drift- and maintenance-free. During measurements in reducing atmospheres falsifications of the gas composition do not occur from the cooling of the measuring gas in a suction line. The use of high-quality components and materials guarantees long-term stability.

If the fuel gas composition is known, it is possible to calculate the air factor λ , the CO -, CO_2 -, H_2 - and the H_2O - concentration. These values can be provided by external electronic units (e.g. ZIROX electronic unit E2000).

Applications

The KS20 serves the process control and combustion optimization (TÜV-Approval according to „TA Luft, 13. und 17. BImSchV“) in power and heating plants as well as in incineration plants. It is also part of regulating oxidizing and reducing furnace gases in ceramic industries. The KS20 was especially constructed for the high temperature range (measurements up to 1400 °C).



Sauerstoffsonde KS20

Sensoren und Elektronik GmbH



Technical Data

Length.....	300...1500 mm
Diameter	25 mm ceramic tube, 28mm steel shaft
Weight	1...3.5 kg
Material.....	Al ₂ O ₃
Clamp head	Thermocouple head
Clamps	Special clamps on ceramic socket
Protection degree	IP52, IP 65 on request
Range	Oxidizing and reducing conditions (100 vol%...10 ⁻²⁹ vol% O ₂)
Accuracy.....	< 5 % rel. error
Working temperature.....	700...1400 °C
Offset.....	0 mV
Sensor voltage (5.0 Vol.-%, 800 °C)	-33.1 mV
Thermocouple.....	Type B (800 °C corresponds to 3.2 mV)
Reference gas	Ambient air
Reference gas flow.....	5...10 l/h

Clamp assignment:

1	Ground	AGND
2	Sensor voltage	- V _z
3	Thermal voltage	+ V _t

Mounting recommendation: stuffing box

Option: Immersion sleeve (Probe protection at flow > 10 m/s)

