

# Advance Optima – High Performance Measurement Technology

## Oxygen Analyzer Module Magnos 16/17



- Part of the Advance Optima product family, with all advantages

### Magnos 16

- Magnetomechanical measuring principle
- Short  $T_{90}$  time
- Freely selectable measuring ranges
- Highly suppressed measuring ranges
- High accuracy and stability
- Monitoring of the measuring chamber flow rate
- Calibration without bottled test gas
- TÜV approval

### Magnos 17

- Thermomagnetical measuring principle
- Robust measuring cell

The Advance Optima features one housing, a single system controller module, one user interface and multiple analyzer modules. All these analyzer modules have the same mechanical and electrical interfaces and plug directly into the standard housing. Other than the analyzer modules, all components are standard throughout the system.

### Oxygen Analyzer Modules Magnos 16 and Magnos 17

The measuring principles for the Magnos 16 and 17 are based on the specific paramagnetic behaviour of oxygen. These analyzers are characterized by a high measurement accuracy and stability. In order to cover a broad scope of applications, ABB Analytical offers the Magnos with two different measuring techniques.

## Technical Data

### Measuring Principle:

Paramagnetic behaviour of oxygen

## Magnos 16

### Sample Component:

Oxygen (O<sub>2</sub>)

### Measuring Ranges:

- Smallest measuring range: 0...1 Vol.-% O<sub>2</sub>
- Largest measuring range: 0...100 Vol.-% O<sub>2</sub>
- Measuring range switching ratio: ≤ 1:100
- Max. measuring range suppression 1:100, e. g. 99...100 Vol.-% O<sub>2</sub>

### Calibration:

- Zero- and end-point calibration with nitrogen (N<sub>2</sub>) and air or sample gas mixture
- Single-point calibration with room air
- Automatic calibration via built-in pneumatic module or external valves

## Magnos 17

### Sample Component:

Oxygen (O<sub>2</sub>) in flue gases or in nitrogen (N<sub>2</sub>)

### Measuring Ranges:

- Smallest measuring range: 0...3 Vol.-% O<sub>2</sub>
- Largest measuring range: 0...100 Vol.-% O<sub>2</sub>
- Measuring range switching ratio: ≤ 1:33

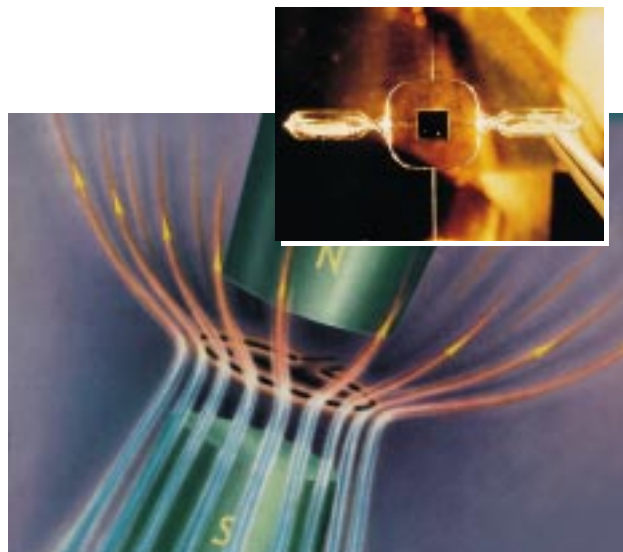
### Calibration:

- Zero-point calibration with oxygen-free process gas or substitute gas
- End-point calibration with process gas having a known oxygen concentration or with substitute gas
- Automatic calibration via built-in pneumatic module or external valves

**Magnos 16** – based on the magnetomechanical measuring principle the analyzer is ideally suited for oxygen purity measurement, process gas measurements and inert gas blanketing. In emission measurements the Magnos 16 fulfills the special requirements, e.g. TA-Luft (German Federal Air Purity) Regulations, German 13. and 17. BImSchV Regulations. The ability to freely select measuring ranges and measure highly suppressed ranges means that the analyzer can be easily adapted to specific tasks. Even measurements for safety are no problem – monitoring the sample flow rate through the measuring chamber always ensures that the current oxygen concentration is being measured. Mounting the analyzer in a flame-proof housing (EEx d) allows use in hazardous areas, zone 1. The standard unit is certified for Class I, Division 2 hazardous areas. Another advantage of the analyzer module is its short T<sub>90</sub> response time. Calibration of the zero point is only required once a month using air or nitrogen.

**Magnos 17** – based on the thermomagnetical measuring principle the analyzer is used mainly in the analysis of flue gas including mixed fuel boilers, incinerators, cement flue gas and roasting gas. The robust measuring cell means the Magnos 17 is especially insensitive to vibrations and shocks.

The range of oxygen analyzer modules is complimented by an electrochemical cell.



**ABB**

**Hartmann & Braun**