AIRSENSE

Process Mass Spectrometer, Model AIRSENSE

On-Line Process Gas Analysis

Fast Response and Selectivity

Stricter and stricter environmental laws and regulations has resulted in new and elebo-rate technologies.

Knowing the customers high profile expecta-tions combined with more than 15 years of experience, the model **AIRSENSE** reflects the latest developmental step within the series of our process mass spectrometer.

Focusing applications for non limited gas components, on line gas analysis should offer reliability, highest possible flexibility, and robustness all in once.

The **AIRSENSE** is based on the Ion Molecule Reaction (IMR) mass spectrometer principle. Unlike others, the IMR mass spectroscopy offers an unique fast response time, a wide dynamic range, selective measurements and lowest detectable limits.

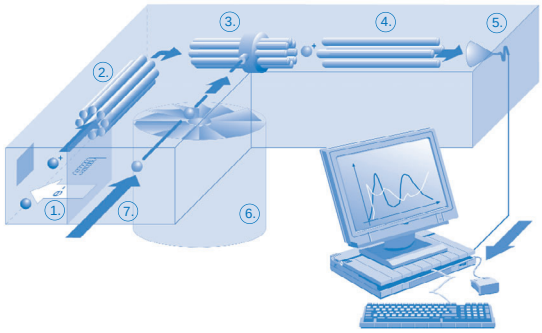
Applications Range widely

Based on the principle of measurement and the unique application capability ranges from automotive and catalytic developments, fuel cell R&D, waste burners and power plants, the food industry, pharmaceutical R&D and medical diagnostics.

Proven Technology

Minimized service and operational costs, flexi-bility and user friendly interface are achieved by the combining well proven technology and state of the art manufacturing capabilities.

A user friendly software package contains sys-tem configurations and data reporting issues being driven by either by an internal PC-Controller or an external AK- or PLC master.



1. Primary Ion Source
2. Octopol Seperation Device
3. Charge Excange Cell
4. Quadrupol - Mass Filter
5. Particle Detector
6. Vacuum System
7. Gas Inlet System

Principle of Operation

Targeting the specific needs within the wide range of applications, the series AIRSENSE is based on the measurement principle called Ion Molecule Reaction (IMR).

By using the IMR technique, the measurement becomes fast, selective and free of any interference. Unlike others, no fragmentation or overlapping spectra can damage the interpretation of the detected results.

IMR means using primary ions with lower energy level (10 eV .. 14 eV) to completely ionize the probe gas molecules. The signal/noise ratio will be optimized by the integrated octopole separator, focusing the primary ions and filtering out any interferences. The quadrupole mass filter (0-500 amu) then separates the molecules for further detection at the fast pulse counter.

The temperature and pressure compensated sample gas inlet guarantees the correct measurement and avoids any discrimination of the gas.

Any contamination due to condensation or particulate matters is minimized.

Features Functions Benefits

- Multi component analyzer, high selectivity using IMR technology
  - Wide dynamic range, lowest LDL, linear across the whole range setting
    - Fast response time, optimized operational cost

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Technical details

Mass range	0 – 500 amu
Resolution	< 1 amu
Analysis time	10 – 6500 msec/amu
Measuring range	10^4
Response time	T90 < 50 msec
Lower detection limit	< 1 ppb (Benzene in air) < 10 ppb (Benzene in exhaust gas)
Drift concentration	< ± 5% over 12 h (1ppm Benzene)
Reproducibility	< ± 3% (1ppm Benzene)
Accuracy	< ± 2% (1ppm Benzene)

Ambient temperature Temperature change	20°C - 40°C, max.1°C/h
Humidity	max 80% (none condensing)
Inlet Temperature	80°C – 190°C adjustable
Gas consumption	30 – 250 ml/min
Power supply	220V/50Hz (115V/60Hz), 800 W
Dimensions (WxHxD)	590 x 650 x 730 mm
Weight	87 kg

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