Ion Mobility Spectrometry
Photo Ionization Detector
Gas Chromatography

IMS-Analyzer

Introduction

The IMS-Analyzer is a multi-gas analyzer as Ion Mobility Spectrometer (IMS) with high sensitivity in the lower ppb-range and high resolution. With this trace-gas analyzer toxic gases can be detected and identified without any enrichment directly in situ already at a very low concentration level.

For the further enhancement of the selectivity and further reduction of cross sensitivities the IMS-Analyzer is also available as GC-IMS approach. There the IMS is coupled with a gas chromatographic column (GC) for pre-separation.

With the IMS-Analyzer, IUT offers a high sensitive, high selective, reliable, and easy to operate analyzer. The analyzer offers an excellent price / performance ratio which makes it quite interesting for replacements of expensive process gas chromatographs.

This unique combination of GC column with IMS to a GC-IMS is also offered as mobile analyzer and is the smallest GC-IMS analyzer available on the market.

Features

- High sensitivity in lower ppb-range
- Enhancement with GC-column coupling (GC-IMS) possible
- Analysis directly in situ (No Tedlar bag sampling / no lab analysis)
- Operation under ambient air pressure
- Long-term-stability and reliability
- Solid-state electronics and few moving parts
- Low Maintenance Time - High Up Time

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Specifications

IMS-Analyzer

Principle of Operation	IMS with gaschromatographic pre-seperation (GC-IMS), no carrier gas required
Resolution	± 2 % of full scale

Operating Specification

Operating ambient Temperature	19" Housing:	15 °C - 30 °C	(+59 °F - 86 °F)
	NEMA 4X Housing:	-40 °C - 50 °C	(-40 °F - 122 °F)
	Mobile:	-10 °C - 50 °C	(+14 °F - 122 °F)
Output	Integrated graph. display, 1 RS 232, LAN/W-LAN (optional), Digital I/O, USB		
Maintenance Rate	1x yearly service		

Analyzer Physical Specification

Dimensions	Portable Housing:	280 (W) x 100 (H) x 330 mm (D)	(11 x 3.9 x 12.9 inch)
	19" Housing:	483 (W) x 135 (H) x 420 mm (D)	(19 x 5.3 x 16.5 inch)
	NEMA 4X Housing:	500 (W) x 500 (H) x 210 mm (D)	(19.7 x 19.7 x 8.3 inch)
Weight	Portable Housing:	7 kg	(15.5 lbs)
	19" Housing:	10 kg	(22.0 lbs)
	NEMA 4X Housing:	18 kg	(40.0 lbs)

Utility Requirements

Power supply	230 (115) VAC; 3 (5) A; 50 (60) Hz		
Avg. power consump.	Portable: 16 W (Battery)	19": 33.6 W	NEMA 4X: 40.7 W.
Peak power consump.	Portable: 56 W (Loading)	19": 51.6 W	NEMA 4X: 250.2 W
Intake Flow	250 - 300 ml/min at atmospheric pressure (self-priming)		
Sample Exhaust	± 3.5 kPa (0.5 psi) (max.) at atmospheric pressure		

Example Compunds

Acetone, Ammonia, Acrylonitrile, BCME, Benzyl Chloride, Bromine, CMME, Chlorine Hydrogen Bromide, Hydrogen Chloride, Hydrogen Fluoride, Dimethyl Sulfate, Chlorocyane, Dibutyl Phthalate, Hydrazne, Isocyanates, NMP, PFIB, Phosgene, Sulfur Dioxide, Vinyl Chloride

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