

# MAx™ Multigas Analyzer



## World's first mainstream multigas analyzer with automatic agent identification

If you are considering a gas analyzer there are many important considerations you should take into account. Some are of obvious importance while others are subtle yet critical for your ultimate satisfaction. When it comes to the MAx Multigas Analyzer the advantages are all yours:

### A complete analyzer in a probe

The entire multigas analyzer is comprised in the IRMA probe which is as small as an oximeter sensor and weighs only 25 grams. It is designed using the latest advances in component and microprocessor technology to provide a complete mainstream gas monitoring system with unique versatility and design. The IRMA probe measures infrared light absorption at different wavelengths in order to precisely determine gas concentrations in the mixture.

### Extremely easy to use

Whatever technology you decide to buy it will have to last for the foreseeable future. What you need is a solution with the flexibility to measure gas in different applications and trouble-free operation. The unique user friendly interface and comprehensive alarm system of the MAx Multigas Analyzer makes it the perfect choice for monitoring gas in routine clinical use.

### Easy to upgrade

As your needs develop, upgrading MAx is as simple as attaching a new IRMA probe. The IRMA™ mainstream probe measures CO<sub>2</sub>, N<sub>2</sub>O, anaesthetic agents (HAL, ENF, ISO, SEV, DES) and provide agent identification with the ability to measure mixed agents.

### Uncompromising convenience

PHASEIN IRMA technology eliminates expensive gas calibrations and complex calibration procedures. The IRMA probe is factory-calibrated and requires no assembly or calibration. The IRMA mainstream probes are designed to overcome the shortfalls of current technologies: namely, liquid and secretion handling, calibration, service costs etc. The MAx Multigas Analyzer contains a standard battery back-up ensuring two hours of uninterrupted operation.

Simply connect the IRMA probe to a MAx Multigas Analyzer, turn on the unit and start measuring.

**We call it PLUG-IN and MEASURE...™**

**phasein**  
MEDICAL TECHNOLOGIES

# Technical Specifications



## General

**Description:** Multigas Analyzer including IRMA Probe

**Power supply:** 100-127 V AC or 220-240 V AC

**Power consumption:** 50 VA

**Battery:** Minimum operating time 2 hrs

**Weight:** 1 kg

**Size:** 210 x 164 x 62 mm (8.2 x 6.4 x 2.4 inches)

**Display:** Fi/ET values for CO<sub>2</sub>, N<sub>2</sub>O, primary agent, secondary agent; MAC; RR

**Trends:** Fi/ET - CO<sub>2</sub>, N<sub>2</sub>O and Agents up to 16 h

**Alarms:** Adjustable alarm levels for LO/HI ETCO<sub>2</sub>, CO<sub>2</sub> Rebreathing, Apnea, RR, LO/HI FiAA

**Languages:** Czech, Dutch, English, French, German, Italian, Spanish, Swedish

## Gas Analyzer

**IRMA Probe:** Ultra small infrared main stream multi gas probe comprising a multi channel IR-bench, barometric pressure sensor, power regulator, signal processor and an RS-232 digital interface

**Calibration:** No routine calibration is required.

**Warm-up time:** 10 sec, full specifications within 60 sec

**Interface:** RS-232 interface operating at 9 600 bps

**Power consumption:** < 1.4 W

**Weight:** IRMA AX+: < 25 g

**Size:** IRMA AX+: 38 x 37 x 34 mm (1.49 x 1.45 x 1.34 inches),

**Shock proof design:** Withstands repeated 1 m drops

**Operating:** IRMA AX+: 10 to 40 °C (50 to 104 °F),

**Storage:** -20 to 50 °C (-4 to 122 °F)

**Humidity:** 10 - 95 %, non-condensing

**Atm.pres:** IRMA CO<sub>2</sub>/AX+: 525 - 1200 hPa (4572 m)

## Airway Adapters

**Adult/Pediatric:** 6 ml dead space

**Infant:** 1 ml dead space

## Gases

The accuracy of all measurement values is according to the requirements of EN ISO 21647:2004 and EN 864:1996

### During standard conditions:

	Range (IRMA AX+)	Accuracy
CO <sub>2</sub>	0-10 vol% 10-15 vol%	±(0.2 vol% + 2 % of reading) ±(0.3 vol% + 2 % of reading)
N <sub>2</sub> O	0 - 100 vol%	±(2 vol% + 2 % of reading)
HAL, ISO, ENF	0 - 8 vol%	±(0.15 vol% + 5 % of reading)
SEV	0 - 10 vol%	±(0.15 vol% + 5 % of reading)
DES	0 - 22 vol%	±(0.15 vol% + 5 % of reading)

**Rise Time:** CO<sub>2</sub> < 90 ms, N<sub>2</sub>O, AA < 300 ms

**Breath detect:** Adaptive threshold, minimum 1 % CO<sub>2</sub> change

**Respiratory rate:** 0 - 150 bpm ± 1 bpm

**Agent threshold:** IRMA AX+: Primary agent 0.15 vol%, secondary agent 0.2 vol% + 10 % of total agent concentration. When concentration has passed the threshold, concentrations will be reported even below the threshold.

**Compensation:** Automatic for atmospheric pressure, temperature and spectral interference

## Certifications

CE marked according to the 93/42/EEC Medical Device Directive

*Data subject to change without notice*

MAx™ Multigas Analyzer  
CAT.NO. 500100



Universal C-clamp  
CAT.NO. 100510



MAx Multigas Analyzer, AX+  
(CO<sub>2</sub>, N<sub>2</sub>O, HAL, ENF, ISO, SEV, DES, Agent ID)  
CAT.NO. 500603



IRMA Airway Adapter  
Adult/Pediatric  
Box of 25  
CAT.NO. 106220



IRMA Airway Adapter  
Infant  
Box of 10  
CAT.NO. 106260



IRMA Holder Velcro  
CAT.NO. 100250

