

## Plug-in and measure anesthesia

**For the accurate and continuous measurement of Automatic Agent ID, Anesthetic Agent Concentrations (HAL, ENF, ISO, SEV, DES), CO<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>O, MAC and Respiratory Rate.**

The Anesthesia Gas Module provides valuable information on patient conditions and for anesthesia system management and ventilation. The sidestream module is a great solution for monitoring anesthesia in procedures that involve infants and adults.

### Features

- » 50 mL/min sampling flow.
- » Ultra-fast rise time.
- » Up to 150 bpm respiratory rate.
- » Low system integration complexity.
- » Micropower operation.
- » RS232 or USB interface.
- » Intelligent light-emitting gas inlet.
- » Interfaces with a paramagnetic or galvanic oxygen sensor.
- » Integrated flow controller and a micro pump.
- » 50 mL/min sampling flow for all applications.



*Despite its miniature size, the sidestream module has all the functions needed for complete multi-gas analysis!*

### **The plug-in Anesthesia Gas Module expands measurement capabilities for DRE Waveline monitors!**

*Upgrades the Waveline Touch into a fully-featured O.R. Monitor.*

*Adds Automatic Agent ID to the Waveline Pro.*



**DRE Waveline Touch**  
Portable Patient Monitor with a touch-screen display



**DRE Waveline Pro**  
O.R. Monitor displays as many as eight waveforms

# Anesthesia Gas Module

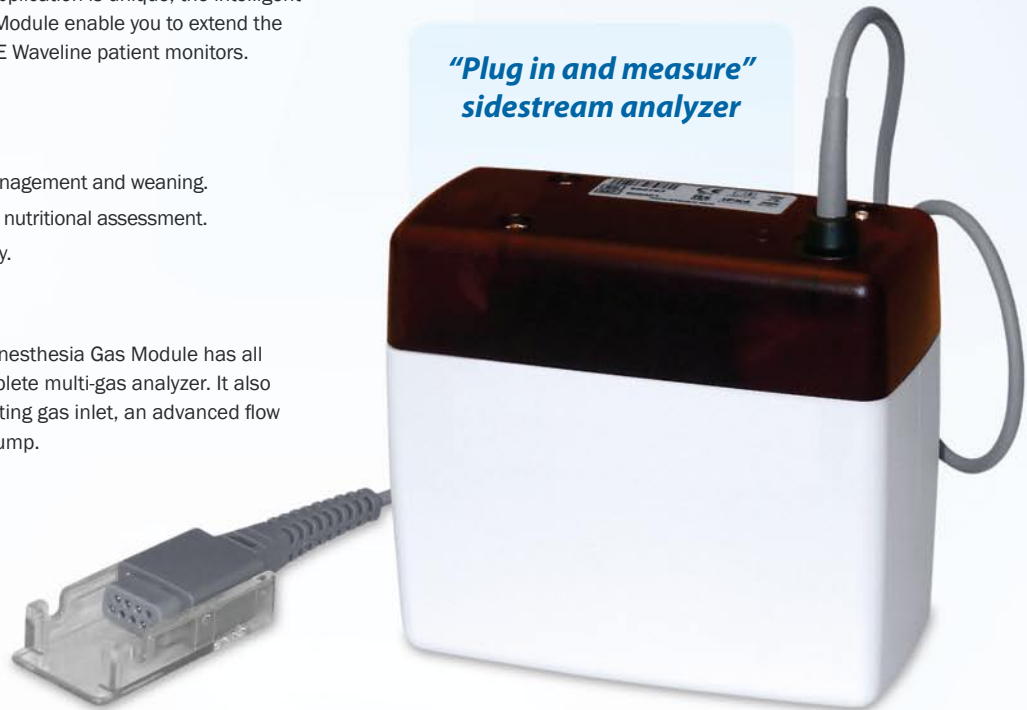
Sidestream analyzer

Equipment for the way *you* operate

The Anesthesia Gas Module combines innovative technologies with advanced features to optimize all aspects of gas monitoring. Recognizing that every clinical application is unique, the intelligent features of the Anesthesia Gas Module enable you to extend the clinical application range for DRE Waveline patient monitors.

- » Respiration mechanics.
- » Procedural sedation.
- » Capnography for ventilator management and weaning.
- » Metabolic measurements and nutritional assessment.
- » Automated drug infusion safety.
- » Anesthesia gas monitoring.

Despite its miniature size, the Anesthesia Gas Module has all the functions needed for a complete multi-gas analyzer. It also features an intelligent light-emitting gas inlet, an advanced flow controller and a rugged micro pump.



## Technical Specifications

### General

**Description:** Ultra compact sidestream analyzer for the measurement of patient respiratory gases.

**Weight:** 400 g (cable excluded)

**Size:** 49 x 90 x 100 mm (3.3 x 5.6 x 1.6 inches)

**Operating temperature:** 5 to 50° C (41 to 122° F)

Storage: -40 to 70° C (-40 to 158° F)

Humidity: 10 - 95 %, non-condensing

Atm. pres.: 525 - 1200 hPa (4,572 m)

### Gas Analyzer

**Calibration:** No routine calibration is required. An automatic zero reference calibration is performed once every startup and once every 8 hours.

**Compensation:** Pressure, temperature and broadening effects on CO<sub>2</sub>

**Warm-up time:** 20 seconds

### Patient connections

**IRMA Airway adapter:** Adult/Pediatric: 6 mL dead space

**IRMA Airway adapter Infant:** 1 mL dead space

**Nomoline:** Sampling line with luer lock connector, 2 m

### 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	Accuracy
CO <sub>2</sub> .....	0-15 vol%	±(0.2 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)
O <sub>2</sub> .....	0-100 vol%	±(1 vol% + 2 % of reading)

**Rise time:** ≤ 250 ms, N<sub>2</sub>O, Agents ≤ 350 ms, O<sub>2</sub> ≤ 450 ms

**Total system response time:** < 3 seconds

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

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

### Certifications

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

*Data subject to change without notice.*