

Masimo Capnography and Multi-gas OEM Solutions

Breakthrough sidestream and mainstream gas monitoring technology



Masimo capnography and multi-gas solutions are flexible, easy to integrate, and designed to measure respiratory gases in a wide range of clinical applications and patient populations. They feature:

- > Complete end-to-end solutions, with both mainstream and sidestream options
- > Flexible configurations, able to accommodate the full spectrum of gas monitoring needs, from capnography to advanced multi-gas measurement
- > Ease of integration with external analysers and built-in modules that use a universal communication protocol
- > Moisture-wicking sampling line technology for effective sidestream capnography and multi-gas measurement

NomoLine® ISA™ Sidestream Analysers

Flexible sidestream gas monitoring solutions in a variety of innovative configurations

- > Designed for real-time, accurate, continuous measurement of inspired and expired gas concentrations and respiratory rate
 - Able to measure CO₂, O₂, N₂O, and anaesthetic agents (HAL, ENF, ISO, SEV, DES) with auto agent-ID

Features and Benefits:

- > A variety of gas analyser options allows monitoring of all patient populations (adults through neonates) in a variety of clinical settings, including the OR, ICU, general ward, emergency department, and during transportation
- > With virtually no warm-up time and full accuracy performance in seconds, accurate data is quickly available to help clinicians intervene faster
- > 50 ml/min sampling flow facilitates accurate measurements and crisp waveforms, allowing for gas monitoring on patients with low tidal volumes and high respiratory rates, such as neonates
- > Compact size, lightweight design, and the availability of multiple configurations (external and built-in) promotes easy integration
- > Low power consumption and automatic temperature and pressure compensation make NomoLine ISA gas analysers easy to maintain



NomoLine ISA CO₂,
ISA AX+, ISA OR+



NomoLine ISA
Capno Module

NomoLine Sampling Lines

Sampling lines with moisture-wicking technology

- > Compatible with Masimo ISA analysers to provide accurate sidestream capnography and multi-gas measurements

Features and Benefits:

- > Multiple sampling line options allow for use on both intubated and non-intubated patients in both low- and high-humidity environments
- > Patented polymer allows moisture to defuse into the environment, providing accurate measurements and eliminating the need for a water trap
- > Hydrophobic filter protects module from bacteria, viruses, and water intrusion
- > Low-flow application design facilitates use across all patient populations, including adult, paediatric, infant, and neonatal patients
- > Lightweight, soft cannulas are ergonomically designed for greater patient comfort
- > Simple plug-in connector allows for a leak-free connection to the gas analyser



NomoLine HH Nasal/Oral
Cannula with O₂



NomoLine LH Airway Adapter Set

IRMA™ Mainstream Analysers

Versatile, mainstream capnography and multigas technology in a compact, lightweight design

- > Designed for real-time, accurate, and continuous measurement of inspired and expired gas concentrations and respiratory rate
 - Able to measure CO₂, N₂O, and anaesthetic agents (HAL, ENF, ISO, SEV, DES) with auto agent-ID
- > Unique, flexible design makes IRMA the only mainstream multi-gas analyser in the world

Features and Benefits:

- > Compact size and lightweight design allow monitoring of adult, paediatric, and infant patients in a variety of clinical settings, including the OR, ICU, emergency department, and during transportation
- > With virtually no warm-up time and full accuracy performance in seconds, accurate data is quickly available to clinicians, promoting efficient response
- > Flexible design supports monitoring patients with high respiration rates (up to 150 bpm), while providing crisp waveforms with fast rise times
- > Low power consumption and automatic temperature and pressure compensation make IRMA gas analysers easy to maintain
- > Small size and the availability of multiple configurations promotes easy integration
- > With measurements recorded through respiratory circuit via the IRMA Airway Adapter, removing respiratory gas from the patient is not required



IRMA CO₂



IRMA AX+

IRMA Airway Adapters

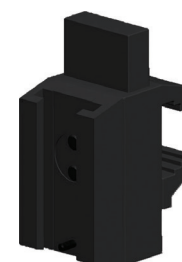


IRMA Adult/Paediatric
Airway Adapter



IRMA Infant
Airway Adapter

ISA and IRMA Accessories



ISA Analyser Modura
Holder with ISA Analyser
Clamp Adapter



NomoLine ISA
Mounting Kit



ISA Gas Exhaust Kit



IRMA Holder Velcro

Performance and Specifications

ORDERING INFORMATION		GAS ANALYSER	
IRMA CO2	REF 200101/200107	Automatic compensation	Pressure and temperature
IRMA AX+ (CO2, N2O, 5 AA, AA ID)	REF 200601/200607	Warm-up time	IRMA CO2/NomoLine ISA CO2: < 10 sec IRMA AX+/ISA AX+/ISA OR+: < 20 sec
NomoLine ISA Capno Module	REF 4354	ISA sampling flow rate	50 ± 10 ml/min
NomoLine ISA CO2	REF 4410/4412	Fulfills the requirements of EN ISO 80601-2-55	
ISA AX+ module (CO2, N2O, 5 AA, AA ID)	REF 700601	Accuracy during standard conditions:	
ISA AX+ (CO2, N2O, 5 AA, AA ID)	REF 800601/800607		
ISA OR+ module (CO2, N2O, 5 AA, AA ID)	REF 700401		
ISA OR+ (CO2, O2, N2O, 5 AA, AA ID)	REF 800401/800407		
GENERAL		RANGE	
Weight	IRMA CO2/AX+: < 25 g (cable excluded) NomoLine ISA CO2: < 98 g (cable excluded) ISA AX+: < 130 g, ISA OR+: < 420 g	CO2	0-15 vol% ± (0.2 vol% + 2% of reading)
Size	IRMA CO2/AX+: 38 x 37 x 34 mm (1.49 x 1.45 x 1.34 inches) NomoLine ISA CO2: 37 x 91 x 60 mm (1.4 x 3.6 x 2.4 inches) ISA AX+: 33 x 78 x 49 mm (1.3 x 3.1 x 1.9 inches) ISA OR+: 49 x 90 x 100 mm (1.9 x 3.5 x 3.9 inches)	N2O	0-100 vol% ± (2 vol% + 2% of reading)
Power supply	4.5 to 5.5 VDC IRMA CO2: < 1.0 W (normal op.) IRMA AX+: < 1.4 W (normal op.) NomoLine ISA CO2: < 0.9 W (normal op.) ISA AX+: < 1.6 W (normal op.) ISA OR+: < 2.0 W (normal op.)	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)
		O2 (ISA OR+)	0-100 vol% ± (1 vol% + 2% of reading)
		Rise time	IRMA CO2: ≤ 90 ms IRMA AX+: CO2 ≤ 90 ms, N2O, Agents ≤ 300 ms NomoLine ISA CO2: ≤ 200 ms ISA AX+/OR+: CO2 ≤ 300 ms, N2O, Agents, O2 ≤ 400 ms, HAL ≤ 500 ms
		Analysers system response time	IRMA CO2/AX+: < 1 sec, NomoLine ISA CO2: ≤ 3 sec, ISA AX+/OR+: ≤ 4 sec
		Breath detection	Adaptive threshold, minimum 1 vol% change in CO2 concentration
		Respiratory rate	0-150 bpm ± 1 bpm
ENVIRONMENTAL		CERTIFICATIONS	
Operating temperature	IRMA CO2: 0 to 40 °C (32 to 104 °F) IRMA AX+: 10 to 40 °C (50 to 104 °F) NomoLine ISA CO2: 0 to 50 °C (32 to 122 °F) ISA AX+/OR+: 5 to 50 °C (41 to 122 °F)	IRMA and ISA external analysers are CE Marked according to the 93/42/EEC Medical Device Directive	
Storage temperature	IRMA CO2/IRMA AX+: -40 to 70 °C (-40 to 158 °F) NomoLine ISA CO2: -40 to 70 °C (-40 to 158 °F) ISA AX+/OR+: -40 to 70 °C (-40 to 158 °F)	Data subject to change without notice	
Operating humidity	10-95% RH (non-condensing)	CONNECTOR SOLUTIONS	
Operating atmospheric pressure	525-1200 hPa (< 5211 m)	IRMA and ISA external analysers are available with either a female DB-9 connector or a male 8-pin LEMO Push n' Pull connector for power supply and RS-232 communication. An open-end cable (REF 100270) that matches the DB-9 connector can also be supplied for customer specific connector solutions.	
PATIENT CONNECTIONS			
IRMA Airway Adapter Adult/Paediatric	6 ml dead space REF 106220		
IRMA Airway Adapter Infant	1 ml dead space REF 106260		
NomoLine sampling lines	See separate NomoLine information for full details of available options		

Variety of Options to Meet All of Your Needs

Analyser Options						
		NomoLine ISA CO2	ISA AX+	ISA OR+	IRMA CO2	IRMA AX+
Gases	CO2	•	•	•	•	•
	O2			•		
	N2O		•	•		•
	Agents		•	•		•
	Auto ID/mixed agents		•	•		•
	Optional built-in module	•	•	•		

For professional use. See instructions for use for full prescribing information, including indications, contraindications, warnings, and precautions.

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