

capnography

VM-2500 CO₂/SpO₂ Monitor

High performance capnography with either mainstream or sidestream measurement

- Robust and ergonomic design
- Fast warm-up time
- Rapid response time
- Extremely accurate and reliable measurement
- CO₂ and SpO₂ combined
- Displays EtCO₂, FiCO₂, SpO₂, respiration and pulse rate, capnogram and plethysmogram
- Maintenance and calibration-free technology
- Clear and bright, colour display offers superior clarity
- For intubated and non-intubated patients



VM-2500-M
Mainstream Unit



VM-2500-S
Sidestream Unit



The ultra-compact, ergonomic design of the VM-2500-M and VM-2500-S combine outstanding performance and reliability in mainstream or sidestream CO₂ and SpO₂ monitoring.

The VM-2500-M and VM-2500-S combine innovative technologies and design with the latest materials, to create extremely accurate and reliable measurement of intubated or non-intubated patients.

The mainstream unit utilises the advanced IRMA™ CO₂ Analyser; to precisely determine gas concentration in the mixture.

The sidestream unit utilises the advanced ISA™ CO₂ Analyser; with a range of sampling solutions to eliminate problems caused by water secretions affecting the reading.

These units incorporate a clear and bright colour display technology, offering unrivalled clarity, in even the most difficult of lighting conditions.

The VM-2500-M and VM-2500-S can be used in a variety of applications, from use in emergency rescue situations, during surgery, intensive care, resuscitation and patient transportation.



The ultra-compact, ergonomic design of the VM-2500 combines outstanding performance and reliability in for either mainstream or sidestream CO₂ and SpO₂ monitoring.

Mainstream Standard Package

- Mainstream Unit
- IRMA™ CO₂ analyser
- IRMA™ Airway adapter (Adult and Paediatric)
- Reusable SpO₂ sensor*
- USB data cable
- Power supply (UK and EU Plug)
- 4 x AA batteries
- 1 x Li-Poly battery (CT-2500)
- Silicone protective cover
- PC software
- Instruction manual on CD

* Please select from the following sensor styles:
Silicone Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor or Ear Sensor, and indicate at the time of ordering.



Key Features of the VM-2500-M

- Mainstream CO₂ measurement with the **IRMA™ CO₂ Analyser**
- Fast warm-up time of < 10 seconds to full specification
- 'PLUG-IN and MEASURE...'™ technology - **no integration procedures** or associated expenses required
- **No occlusion by water or mucus**
- **IRMA airway adapter with XTP™ non-condensing** light transmission window
- Small, lightweight and shock-resistant; the **IRMA™ CO₂ Analyser** weighs less than 30g
- Direct measurement **without time delay**
- For intubated and non-intubated patients
- Maintenance and calibration-free technology
- Wide range of accessories and SpO₂ sensors available

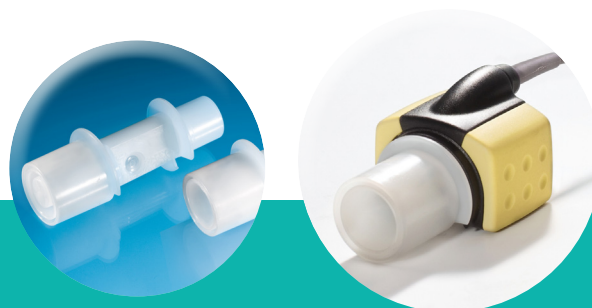
Mainstream Measurement

The **IRMA™ CO₂ Analyser** sets new standards in CO₂ mainstream monitoring and provides reliable, safe and easy CO₂ monitoring by direct measurement, without time delay.

- Small and lightweight
- 'PLUG-IN and MEASURE...'™ technology
- Shock resistant

The **IRMA™ Airway Adapters** are supplied in two versions; Adult/Paediatric and Infant.

- Non-condensing light transmission XTP™ window
- Single patient use



Applications

The VM-2500 with Silicone Finger Sensor is suitable for the following applications:

- Patient transport within and between hospitals
- Rescue services and emergency medicine
- Resuscitation
- General and Paediatric ICU
- Ventilator management and weaning

Sidestream Standard Package

- Sidestream Unit
- 1 x VersaStream Adult/Paediatric Airway Adapter Sampling Line - Short Term
- 1 x VersaStream Adult/Paediatric Airway Adapter Sampling Line - Long Term
- 1 x VersaStream Sampling Line with Luer Lock Connector - Long Term
- Reusable SpO₂ sensor*
- USB data cable
- Power supply (UK and EU Plug)
- 4 x AA batteries
- 1 x Li-Poly battery (CT-2500)
- Silicone protective cover
- PC software
- Instruction manual on CD

* Please select from the following sensor styles: Silicone Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor or Ear Sensor, and indicate at the time of ordering.



Airway Adapter Sampling Line



Sampling Line with Luer Lock Connector

Key Features of the VM-2500-S

- Sidestream CO₂ measurement with the **ISA™ CO₂ Analyser** and VersaStream technology
- Fast warm-up time of < 10 seconds to full specification
- The **VersaStream** sampling lines use the latest material technologies to allow the **removal of moisture and vapour** from the sampled gas
- The VersaStream includes a hydrophobic bacterial filter to **protect against water intrusion and cross contamination**
- Specially designed for **low flow applications**; 50 ml/min sampling flow rate
- For intubated and non-intubated patients
- Maintenance and calibration-free technology
- Wide range of accessories and SpO₂ sensors available

Sidestream Measurement

The VersaStream technology incorporates a unique water separation polymer with an integrated hydrophobic bacterial filter, passing water vapour and condensed water through its surface and evaporating into the surrounding air whilst leaving the carbon dioxide concentration unaffected.

VersaStream sampling lines offer a fully disposable one-piece sampling solution for short-term (≤ 24 hours) or long-term (≤ 72 hours) use. This offers greater flexibility of choice for the end-user.

Additional Sidestream Accessories



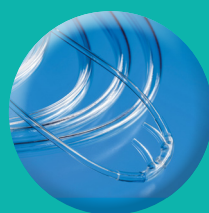
Sidestream airway adapter available in Adult/Paediatric



Airway adapter and sampling line



Nasal sampling line



Nasal sampling cannula available in Adult/Paediatric and Infant



Nasal/oral sampling cannula



Luer Lock connector

The screenshot displays the VM 2500 MMS software interface. The top window shows patient data for 'Diagram Patient info' and 'Real-Time monitor'. The 'Real-Time monitor' section displays four waveforms: EtCO2 (5.6%), FiCO2 (0.6%), HR (121/min), and SpO2 (98%). Below this, a table lists patient data for the period 2010/05/20 to 2010/05/21. The bottom window shows a list of alarms, including 'FCO2 High', 'Excess light', 'SpO2 Low', and 'PR Low'.

VM 2500 MMS

File Communication Report Extra Help

Diagram Patient info Real-Time monitor

EtCO2 5.6% 7.3

FiCO2 0.6% 1.2

HR 121/min

SpO2 98%

VM 2500 MMS C:\Documents and Settings\Projeto\Desktop\Few Folder\2010_05_20_08_56.cap

File Communication Report Extra Help

Date	Time	Duration
2010/05/20	07:59	00:56:24
2010/05/20	07:59	00:00:32
2010/05/20	07:00	00:04:48
2010/05/21	12:47	00:02:40
2010/05/21	09:50	00:05:04
2010/05/21	09:41	00:05:20
2010/05/21	09:37	00:04:08
2010/05/21	09:02	00:25:28
2010/05/21	09:38	00:22:56
2010/05/21	09:43	00:07:44
2010/05/21	07:13	00:04:08
2010/05/21	07:08	00:05:12
2010/05/21	07:07	00:02:08
2010/05/21	07:07	00:02:08
2010/05/21	07:06	00:02:00
2010/05/21	07:02	00:04:15
2010/05/20	19:54	00:16:48

Diagram Patient info Real-Time monitor

Alarm log:

No.	Start	Stop	Alarm
1	21.05.2010 07:18	21.05.2010 07:18	FCO2 High
2	21.05.2010 07:18	21.05.2010 07:18	FCO2 High
3	21.05.2010 07:19	21.05.2010 07:19	Excess light
4	21.05.2010 07:19	21.05.2010 07:19	SpO2 Low
5	21.05.2010 07:19	21.05.2010 07:19	PR Low
6	21.05.2010 07:19	21.05.2010 07:20	Apnoea!
7	21.05.2010 07:19	21.05.2010 07:20	SpO2 Low
8	21.05.2010 07:20	21.05.2010 07:22	Apnoea!
9	21.05.2010 07:22	21.05.2010 07:22	SpO2 Low
10	21.05.2010 07:22	21.05.2010 07:22	PR Low
11	21.05.2010 07:25	21.05.2010 07:25	Excess light!
12	21.05.2010 07:25	21.05.2010 07:25	SpO2 Low
13	21.05.2010 07:25	21.05.2010 07:25	PR Low
14	21.05.2010 07:25	21.05.2010 07:25	Excess light!
15	21.05.2010 07:25	21.05.2010 07:25	SpO2 Low
16	21.05.2010 07:25	21.05.2010 07:25	PR Low
17	21.05.2010 07:27	21.05.2010 07:28	SpO2 Low
18	21.05.2010 07:28	21.05.2010 07:28	SpO2 Low

With the convenient Capnograph PC Software all measured values, selected alarm limits and alarm messages can be transferred to the computer via the USB interface. The data can be viewed on the computer and patient information added. The PC software enables basic statistical evaluation of the stored data.

The software can also be used to display and store the measurement values and alarm messages on the computer in parallel to ongoing measurements. This function is activated by setting the real-time mode of the Capnograph. When this mode is activated, the device transfers the actual measurement values for etCO_2 , FiCO_2 , SpO_2 , Respiration and Pulse Rate measurement values every second to the computer via the USB interface.



NB. When ordering the VM-2500 please select from the following reusable sensor styles: Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor, Ear Sensor and indicate at the time of ordering.

VM-2500 CO₂/SpO₂ Monitor

Measuring Range

EtCO₂ and FiCO₂

0 - 15 Vol%, or expressed as kPa or mmHg

SpO₂

0 - 100%

Respiration Rate

0 - 150 breaths/min

Pulse Rate

20 - 300 bpm

Accuracy

EtCO₂ and FiCO₂

± (0.2 vol% + 2% of reading)
± (0.3% vol % + 4% of reading) inc. interfering gases

SpO₂

± 2% (70 - 100%)

Respiration Rate

± 1 digit at 60 breaths/min

Pulse Rate

± 1 digit (≤ 100/min) or ± 1% (> 100/min)

Display

Features

Data displayed

Colour OLED, 262,000 colours, 240 x 320 pixels
End-tidal CO₂ and inspired CO₂ in volume %, kPa or mmHg,
oxygen saturation, respiration rate, pulse rate, capnogram,
plethysmogram, bar graph, short term trends

Indicators

Signal strength and signal quality, pulse amplitude, battery status,
alarm silenced, volume silenced, neonatal mode, time, storage capacity full

Trend Information

Short Term Trend

15 min/1 hour/6 hours (stored and displayed)

Long Term Trend

Approximately 400 hours (stored)

Environmental Conditions

Operating temperature

0 - 50°C, 15 - 95% R.H. (non-condensing), 60 - 120 kPa (excl. Li-Poly battery)

Storage temperature

-30 - 70°C, 10 - 95% R.H. (non-condensing), 60 - 120 kPa (excl. Li-Poly battery)

Regulatory Approvals

Standards

CE Class IIb in accordance with MDD 93/42/EEC
BS EN 60601-1:2006, BS EN 60601-1-1:2001, BS EN 60601-1-2:2007,
BS EN 60601-1-8:2004, EN 60529, EN ISO 21647:2004, BS EN ISO 9919:2005
Class II, Type BF

Safety

Assembly

Construction

IPX1

Dimensions

150 mm (L) x 75 mm (W) x 35 mm (H)

Weight

Approximately 400g (complete device with batteries)

Power Supply

Power supply 90 - 260 VAC/6 VDC, 50 - 60 Hz, 2.5 Ah Li-Poly battery or 4 x AA alkaline batteries

Battery Life

AA batteries: with full functionality VM-2500-M > 6 hours, VM-2500-S > 3 hours
Li-Poly battery: with full functionality VM-2500-M > 7 hours, VM-2500-S > 5 hours

PC interface

USB 2.0

Part Numbers

VM-2500-M Mainstream Capnograph*

4410500

EAN-13 (GTIN-13) Barcode: 5051826002711

VM-2500-S Sidestream Capnograph*

4410520

EAN-13 (GTIN-13) Barcode: 5051826002728

* Language Package: Central European, including:

English, Dutch, French, German, Italian, Spanish, Swedish and Russian
(additional language versions available on request)

VM-2500-M - Asia Languages (English, Chinese and Japanese)

4410501

VM-2500-S - Asia Languages (English, Chinese and Japanese)

4410521

Additional Accessories Available

Pulse Oximetry Extension Cable, 1.2m cable length (XT6500)

0014895

Pulse Oximetry Extension Cable, 2.4m cable length (XT6501)

0014896

Silicone Protective Cover

4420611

Carrying Case

4420620

Carrying Case with clear front

4420621

Protective Rubber Boot

4420615

Universal Mounting Plate Rev. 1

4420600

Universal Mounting Plate Rev. 2

4420601

'V' mount wall plate

0121180

'V' mount pole clamp (Small: 14 - 25mm span)

0121181

'V' mount pole clamp (Large: 16 - 40mm span)

0121182

'V' mount rail clamp

0121184

'V' mount pole clamp, multi-position

0121197

Universal Mounting Clamp, with vertical and horizontal adjustments

0121200

IRMA Holder

4420613

Silicone Cover for use with IRMA

4420612

NB. When ordering either the VM-2500-M or VM-2500-S please select from the following reusable sensor styles:

Soft Sensor (Adult or Paediatric), Finger Sensor, Silicone Wrap Sensor, Ear Sensor and indicate at the time of ordering.

Specification Subject to Change

Mounting Options

For use with VM-2500 range

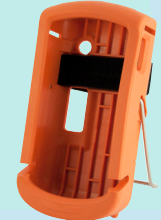
4420600 Rev. 1 4420601 Rev. 2  Universal Mounting Plate	0121200  Universal Mounting Clamp	0121180  'V' Wall Mount	0121197  'V' Mount Pole Clamp Multi-Position
0121184  'V' Mount Rail Clamp	0121181  'V' Mount Pole Clamp Small: 14 - 25mm span	0121182  'V' Mount Pole Clamp Large: 16 - 40mm span	4420613  IRMA Holder

4420612



Silicone cover for use with IRMA

4420615



Protective Rubber Boot
includes carrying strap

Carrying Cases for VM-2500

4420620



Carrying Case

- Fluid repellent
- Non rot
- U.V. stable
- Washable at 60°C

- Self healing and waterproof zips
- micrAgard silver-lining inners
- Abrasion and tear resistance
- High visibility and reflective properties

4420621



Carrying Case
with clear front panel

4420628



Carrying Case
Accident & Emergency Text

Distributed by:



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