

capnography products



VIAMED

High performance capnography solutions for a wide range of applications

Contact Us



01535 634 542



01535 635 582



15 Station Road
Cross Hills
Keighley
West Yorkshire
BD20 7DT



info@viamed.co.uk



www.viamed.co.uk



VIAMED

VM-2500 CO₂ / SpO₂ Monitor



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VM-2500-MG Multigas / SpO₂ Monitor



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General Accessories



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Capnograph CO₂ Sampling Lines



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VersaStream CO₂ Sampling Lines

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Respironics Philips see page 24...
Luer Lock Male see page 26...
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FLOCAP® Flow Indicator & EtCO₂ Detector



see page 30...

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-S
Sidestream Unit**



**VM-2500-M
Mainstream 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

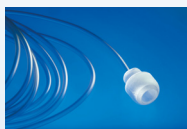
The VM-2500 with Silicone Finger Sensor is suitable for the following applications:

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





Airway Adapter Sampling Line



Sampling Line with Luer Lock Connector

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.



Key Features of the VM-2500-S

- Sidestream CO₂ measurement with the **ISA™ CO₂ Analyser** and Nomo technology
- Fast warm-up time of < 10 seconds to full specification
- The **Nomo Adapter** uses Nomo technology which **removes water** and **vapour** from the sampled gas
- The Nomo Adapter 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 See page 15 for single piece VersaStream lines



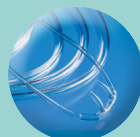
Sidestream airway adapter available in Adult/Paediatric



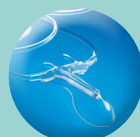
Airway adapter and sampling line



Nasal sampling line



Nasal sampling cannula available in Adult and Paediatric

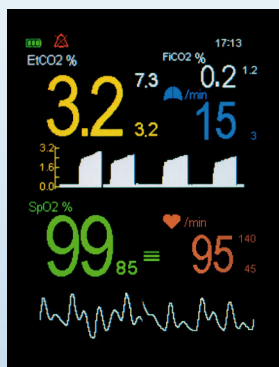


Nasal/oral sampling cannula



15mm airway adapters range available, I.D 2.0mm to 10.0mm

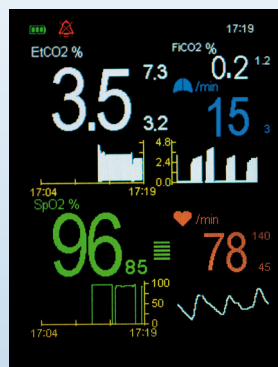
Screen Display Options



Standard Display Format



Large Digit Display

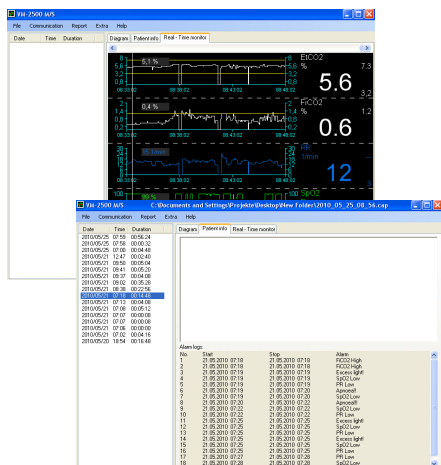


Trending Digit Display Format

Powerful Capnograph PC Software

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 etCO₂, FICO₂, SpO₂, Respiration and Pulse Rate measurement values every second to the computer via the USB interface. greater flexibility of choice for the end-user.



Available Sensors See page 13



Adult Soft Sensor



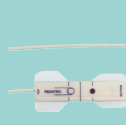
Paediatric Soft Sensor



Finger Sensor



Silicone Wrap Sensor



Disposable Sensors



Ear Sensor

VM-2500-MG

Multigas / SpO₂ Monitor

High performance and versatile anaesthetic agent monitoring

- Innovative micro-optic technology
- Direct mainstream measurement without time delay
- Warm-up time: < 1 minute to full specification
- Maintenance and calibration-free technology
- Colour OLED display
- Application range from neonates to adults



VM-2500-MG

The ultra-compact, light and easy to handle design of the Capnograph Multigas Monitor is the perfect flexible and mobile monitor for identifying and quantifying the five most important anaesthetic agents as well as other gases and parameters.

- Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane
- N₂O
- etCO₂, FiCO₂
- Oxygen saturation
- Respiration and Pulse Rate

By direct mainstream measurement, there is no monitoring time delay.

The ultra-compact, ergonomic design of the Capnograph MG combines outstanding performance and reliability in pulse oximetry and mainstream monitoring of anaesthetic agents and CO₂

Standard Package

- Capnograph Multigas Monitor
- IRMA™ AX+ analyser
- IRMA™ Airway adapter (Adult/Paediatric)
- Reusable SpO₂ sensor*
- USB data cable
- Power supply (FW7660M/06)
- Power supply plugs (UK and EU)
- 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.



Reliable automatic agent identification and quantification

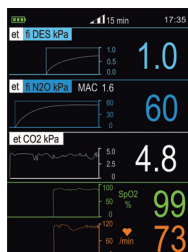
The **IRMA AX+ Analyser** is equipped with state-of-the-art NDIR technology with up to 9-channel gas type analysis in the 4 - 10 µm range and offers reliable agent identification and quantification, even in gas mixtures.

The **IRMA AX+ Analyser** is lightweight, small and shock-resistant. It weighs less than 25g.

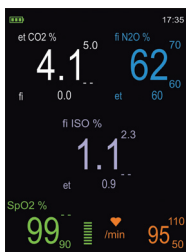
Key features of the Capnograph MG

- Innovative micro-optic technology
- Direct mainstream measurement without time delay
- Compact, robust and ultra-light multigas analyser
- Warm-up time: < 1 minute to full specification
- Maintenance and calibration-free technology
- Self-explanatory, ergonomic operating functions facilitate intuitive operation
- The Colour OLED information display, as well as the simple information structure - support quick decisions and a rapid user reaction in critical situations
- Leading-edge power management with standard alkaline batteries or Li-Poly batteries or medical power supply (or combined)
- Application range from neonates to adults

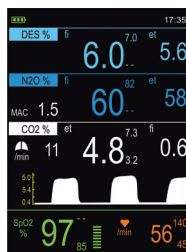
Screen Display Options



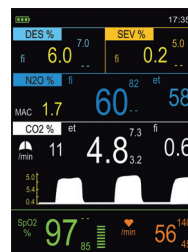
Multi Trend -
15 minutes



Numerical
1 Anaesthetic Agent



Standard
1 Anaesthetic Agent



Standard
2 Anaesthetic Agents



Key Technology Accessories

SpO₂ Sensors

The Capnograph MG provides leading technology sensors and accessories

A wide range of flexible, robust and hygienic paediatric and adult SpO₂ sensors are available, as well as disposable sensors for use on adults through to neonates.



Available Sensors See page 13



Adult
Soft Sensor



Paediatric
Soft Sensor



Finger
Sensor



Silicone
Wrap
Sensor



Disposable
Sensors



Ear
Sensor



Powerful Capnograph MG PC Software

With the convenient Capnograph MG 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 MG. When this mode is activated, the device transfers the actual measurement values for the anaesthetic agents, N₂O, etCO₂, FiCO₂, SpO₂, Respiration and Pulse Rate to the computer via the USB interface.

Capnograph MG Multigas Analyser

The **IRMA AX+ Multigas Analyser** which weighs just 25g, sets new standards in mainstream anaesthetic agent monitoring and provides reliable and comprehensive monitoring of CO₂, N₂O, Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane through direct measurement without time delay.

- 9-channel NDIR gas type analysis (4 - 10 µm)
- Calibration and maintenance-free
- Compact and shock-resistant design
- Plug-and-measure technology

The **IRMA Airway Adapter** with low dead space volumes and supplied in two versions for adult/paediatric and infant applications.

- Adult/Paediatric version: dead space volume 6ml
- Infant version: dead space volume 1ml
- Innovative non-condensing light transmission XTP™ window

Applications

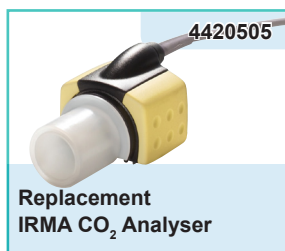
Capnograph MG is well suited for monitoring CO₂, N₂O and oxygen saturations as well as the anaesthetic agents Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane during anaesthesia and mechanical ventilation.

Capnograph MG can be used on adults to infants in hospitals and mobile operating rooms, recovery rooms, intensive care units and emergency care departments.



VM-2500-M

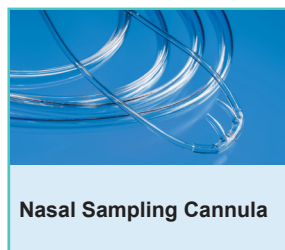
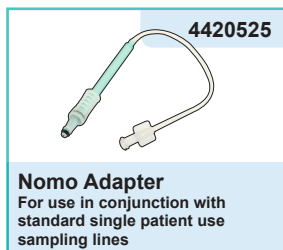
Specific Accessories



VM-2500-S

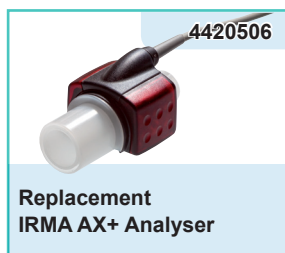
Specific Accessories

The VM-2500-S offers two sampling solutions; a reusable Nomo adapter used in conjunction with single patient use sampling lines, or VersaStream; a complete one-piece single patient use solution - see page 15 for further information on the VersaStream range.



VM-2500-MG

Specific Accessories



4000 Series SpO₂ Sensors

Reusable and disposable pulse oximetry sensors and cables

- Manufactured using the latest technology and materials
- Quality and robust designs
- Reliable and accurate

The 4000 Series includes:

- Finger sensors
- Soft silicone finger sensors
- Wrap sensors
- Ear sensors
- Disposable sensors
- Extension and adapter cables

Compatible for use with most original equipment manufacturers' pulse oximeters and patient monitors including:

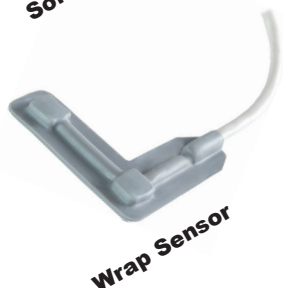
- BCI
- CSI
- Datascope
- Datex
- GE
- HP/Philips
- Minolta
- Nellcor
- Nihon-Kohden
- Nonin
- Novamatrix
- Ohmeda
- Palco
- Sormedics
- Spacelabs
- Viamed



Finger Sensor



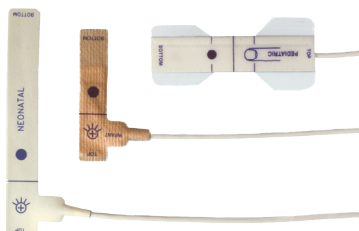
Soft Silicone Sensor



Wrap Sensor



Ear Sensor



Disposable Sensors

General Accessories

for use with VM-2500 series

4420611



Silicone Protective Cover for VM-2500 Series

4420615



Protective Rubber Boot/Stand

4420620



Carrying Case

4420621



Carrying Case with clear viewing panel

4420628



Carrying Case with A&E logo

4420590



Battery Li-Poly

4420594



Power Supply



Power Supply - UK adapter, EU adapter, AUS adapter and US adapter

4420601



Universal Mounting Kit* Rev. 2

0121200



Universal Mounting Clamp

0121180



'V' Mount Wall Plate

0121181



'V' Mount Pole Clamp Small: 14 - 25mm clamping width

0121182



'V' Mount Pole Clamp Large: 16 - 40mm clamping width

0121184



'V' Mount Rail Clamp Attaches to most types of medirail 30mm (H) x 10mm (D)

0121197



'V' Mount Pole Clamp Horizontal

0021013



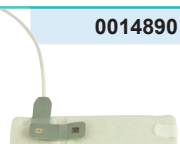
Posey Sensor Wrap Box of 12 - 6554 Also available in cases

0021018



Posey Sensor Wrap Paediatric - 6554P Box of 12 Also available in cases

0014890



Viamed Sensor Wrap For use with Viamed Sensors, Pack of 12

4420597



USB Cable For use with VM-2500 series

9910127



Lanyard with screw thread

*The universal mounting kit is required when using any of the mounting options shown.

Sampling Line Solutions

Standard Sampling Lines: Can be used anywhere

See page ??



Gas Sampling Lines Type S

Including Luer Lock connections. These sampling lines do not remove humidity, but are economical, flexible and **do not kink**. Their multi-layer construction (PE/EVA/PVC) makes them suitable for use with anaesthetic gases.

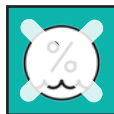


Does not
kink

See page ??

Gas Sampling Lines Type H

Also have Luer Lock connections and additionally remove humidity. These sampling lines save costs by reducing or negating the need for regular exchange of water traps or absorbers.



Removes
humidity



Not adversely
affected by
anaesthetic
agents

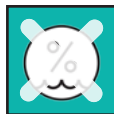
See page ??

VersaStream Sampling Lines

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



Integrated
bacterial filter

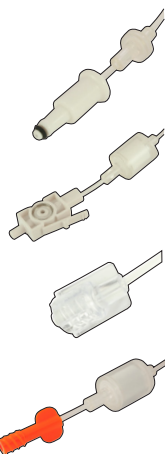


Removes
humidity



Not adversely
affected by
anaesthetic
agents

These sampling lines are available with a range of different connectors: Viamed (Masimo/Phase-In), Luer Lock (General Purpose), Respirationics (Philips). They are also available in multiple configurations of patient type, length and versions. VersaStream sampling lines remove moisture and incorporate bacterial filters, thereby both reducing costs and minimizing risk of cross-infection.



Viamed: Masimo, PhaseIn

See page 22

Respirationics, GE, Philips

See page 24

Luer Lock: General Purpose, Dräger

See page 26

Oridion: Covidien, Nellcor, Medtronic

See page 28

Gas Sampling Lines S Type

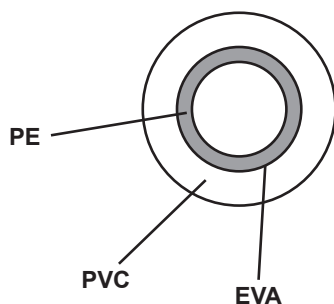
High performance and economical sampling lines that are not adversely affected by anaesthetic gases



- For use with Capnographs, as well as gas monitors and modules that use a standard Luer Lock connection; and that incorporate a water trap or absorber.
- Suitable for monitoring O₂, CO₂ and anaesthetic gases
- The multi-layer **S type** long-term sampling lines are very flexible and kink resistant
- Ideal for use in ICUs, NICUs, Operating Theatres and Emergency Services applications

Conventional sampling lines manufactured from just PVC are **not** suitable for use with anaesthetic gases and may cause incorrect readings, the **S type** sampling lines resolve this problem by being manufactured with a PE inner core. Sampling lines manufactured with just PE are not flexible and are prone to kinking.

Multi-layer Tube



PE = Polyethylene

Inner tube is not affected by anaesthetic gases

PVC = Polyvinyl Chloride

Outer tube enables the line to be flexible and prevents kinking

EVA = Ethylene-vinyl acetate

Bonds the inner PE tube to the outer PVC tube



Part Number: 4421504

Length: 2.5m, Box of 10

Part Number: 4421505

Length: 3.0m, Box of 10

Part Number: 4421507

Length: 4.0m, Box of 10

Gas Sampling Lines H Type

High performance sampling lines that remove humidity and are not adversely affected by anaesthetic gases

- For use with Capnographs, as well as gas monitors and modules that use a standard Luer Lock connection; and that incorporate a water trap or absorber.
- The long-term **H Type** sampling lines (< 72 hours) save costs by reducing or negating the need for regular exchange of water traps or absorbers. They are also a cost-effective alternative to Nafion® tubes.
- The advanced gas-selective tubing material permits active removal of moisture and water - even in cases of low temperature and high humidity. All other gases remain unchanged within the tubing, allowing precise measurements.
- Can be used with both low-flow and high-flow systems (30 - 250 ml/min)
- Perfectly suited for monitoring O₂, CO₂ and anaesthetic gases.
- Ideal for use in ICUs, NICUs, Operating Theatres and Emergency Services applications.

H Type sampling lines are available with or without an integral airway adapter. The 'line only' version incorporates a raised (yellow) sampling port and is designed for use with standard airway adapters. The raised sampling port on both versions prevents moisture from flowing down the line, as well as facilitating mid-stream gas sampling.



Close-up of LLM line sampling port



Sampling Line with integral airway adapter



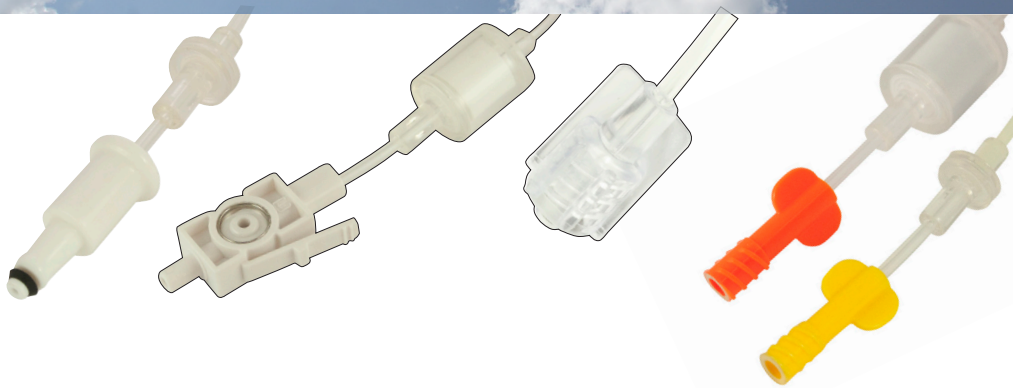
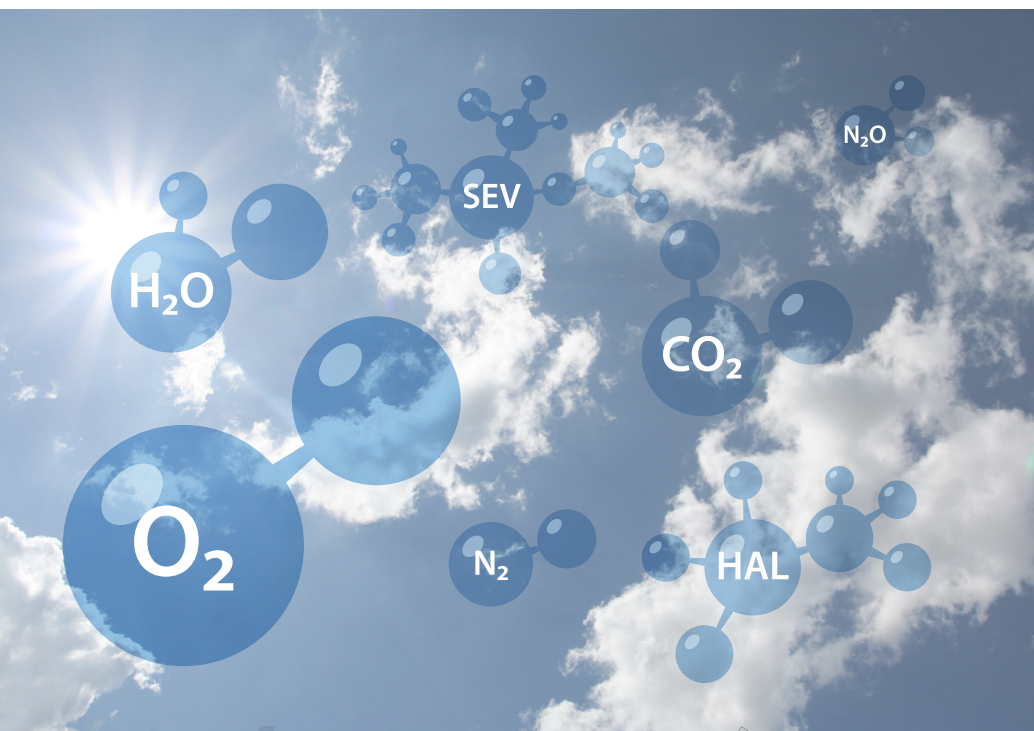
Part Number: 4421513
LLM Line only, 2.0m
Box of 10

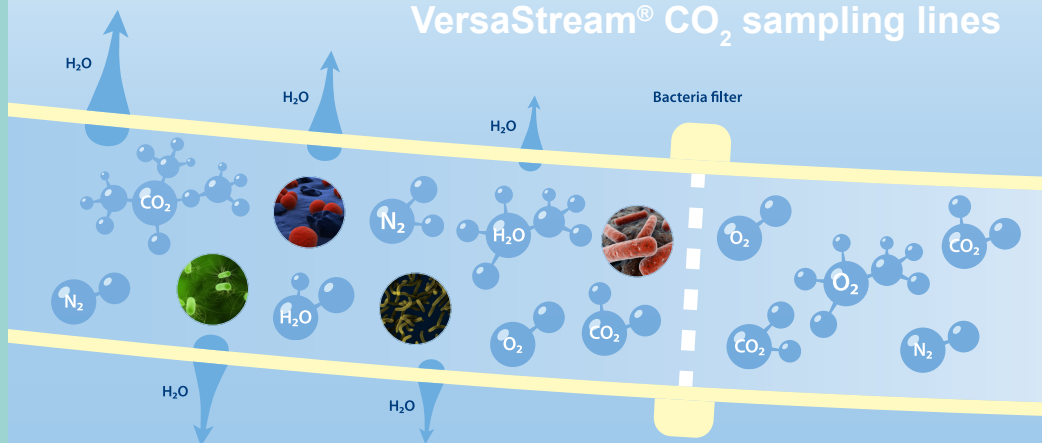


Part Number: 4421523
Airway Adapter (Adult), 2.0m
Box of 10

Part Number: 4421533
Airway Adapter (Infant), 2.0m
Box of 10

VersaStream®

CO₂ Sampling LinesInnovative Solutions for Sidestream CO₂ Monitoring

VersaStream® CO₂ sampling lines

The VersaStream® CO₂ sampling lines combine reliability, flexibility and cost efficiencies

Why VersaStream® CO₂ sampling lines?

- Cost-effective alternative to Nafion® tubes
- The gas-selective non-porous material facilitates fast and complete removal of condensation from the sampling line
- The integrated bacterial filter prevents contamination
- Reliable measured gas values, due to negligible dead space volume of the filter - even in cases of high respiration rates
- Integrated bacteria filter and water removal reduces the number of patient circuit parts and speeds up patient monitoring preparation time

Innovative material technologies

Latest material technologies permit active and complete removal of moisture and water – even in cases of low temperatures and high humidity.

No need to use expensive Nafion® tubes, which are not resistant to bending.

VersaStream® CO₂ sampling lines are very flexible and are suitable for short-term and long-term applications.

Available CO₂ sampling lines



Nasal Sampling Line



Nasal Cannula



Nasal/Oral Cannula



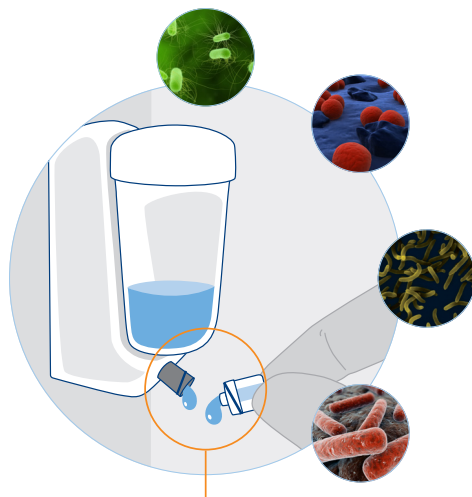
Airway Adapter Sampling Line

Reduction of contamination risks

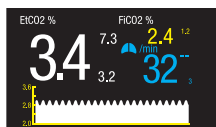
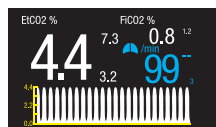
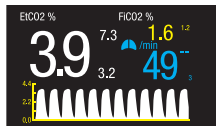
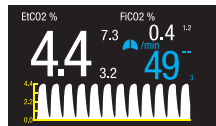
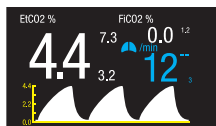
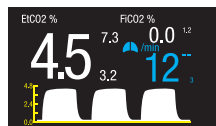
The integrated bacteria filter of the VersaStream® gas sampling lines prevent contamination of gas-conducting components in and at the patient monitor. Transmission of germs, e.g. by contamination at the sample gas connection port of the monitor or at the water separation unit is prevented.

Water traps or water absorbers that are used in many gas monitoring applications in anaesthesia or intensive care – require either no replacement; or reduced need for replacement and emptying when using VersaStream® gas sampling lines.

Alarms triggered at the gas monitor by full water traps are significantly reduced. The associated patient monitoring labour and consumables costs are reduced considerably.



Contamination risk where standard lines are used with systems that employ water traps. VersaStream® lines resolve this potential infection control issue.



VersaStream®

LDS filter – Low-dead-space bacteria filter

Reliable measured values – even in cases of high breathing or ventilation frequency

The dead space volume of the filter unit has been reduced to only a few micro litres, thus facilitating precise measurement of CO₂ concentrations in the breathing gas – even at high respiration rates.

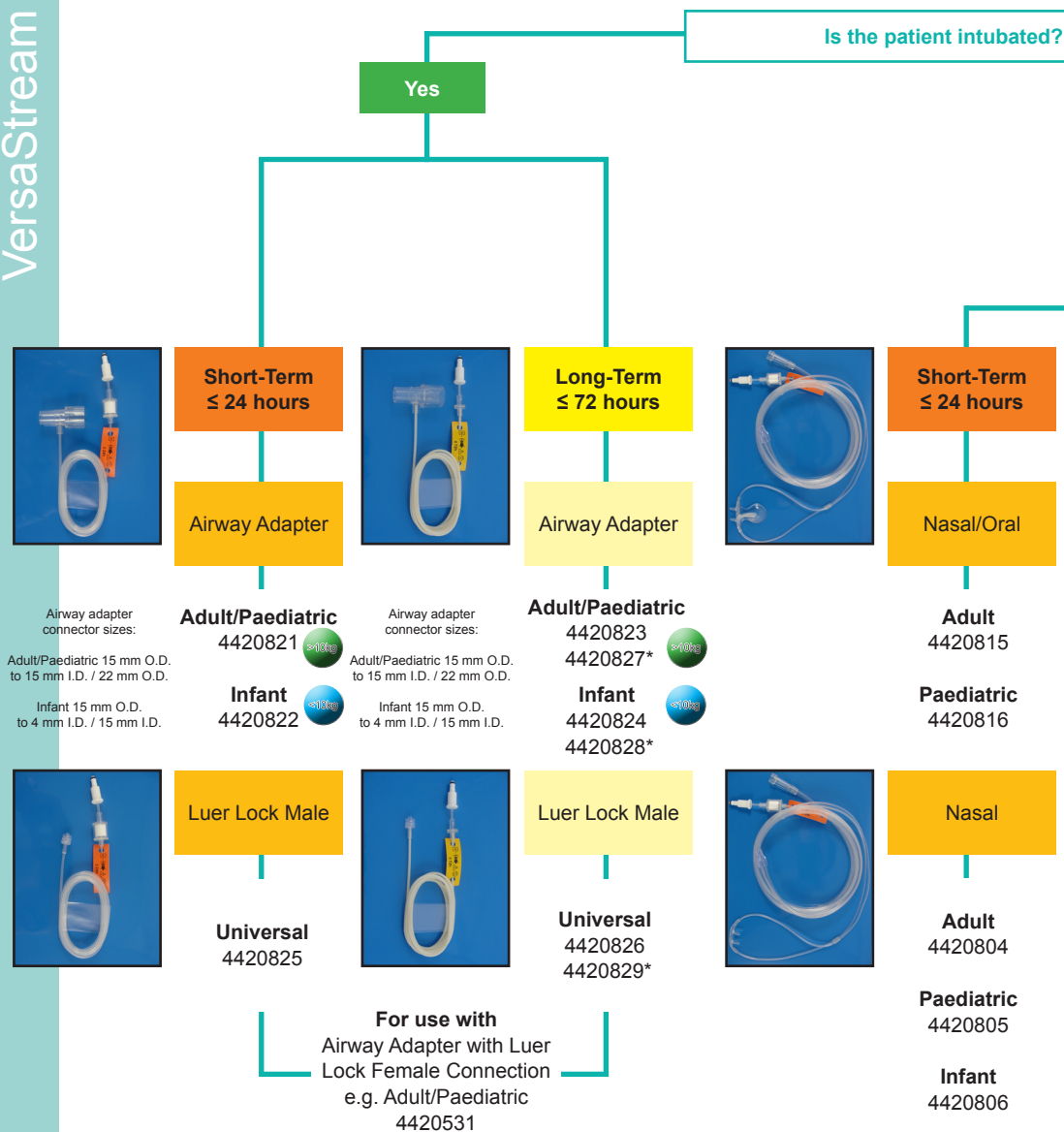


Diverse areas of application

VersaStream® CO₂ sampling lines are suitable for use in areas, such as:

- Short and long term patient monitoring applications
- Monitoring of intubated and non-intubated patients
- Emergency medicine
- Patient transport
- Anaesthesia
- Intensive-care medicine – for adults and children
- Sedation
- Pain therapy, pain therapy management
- Homecare
- Sleep clinics and CPAP-ventilation

viamed versastream selection guide

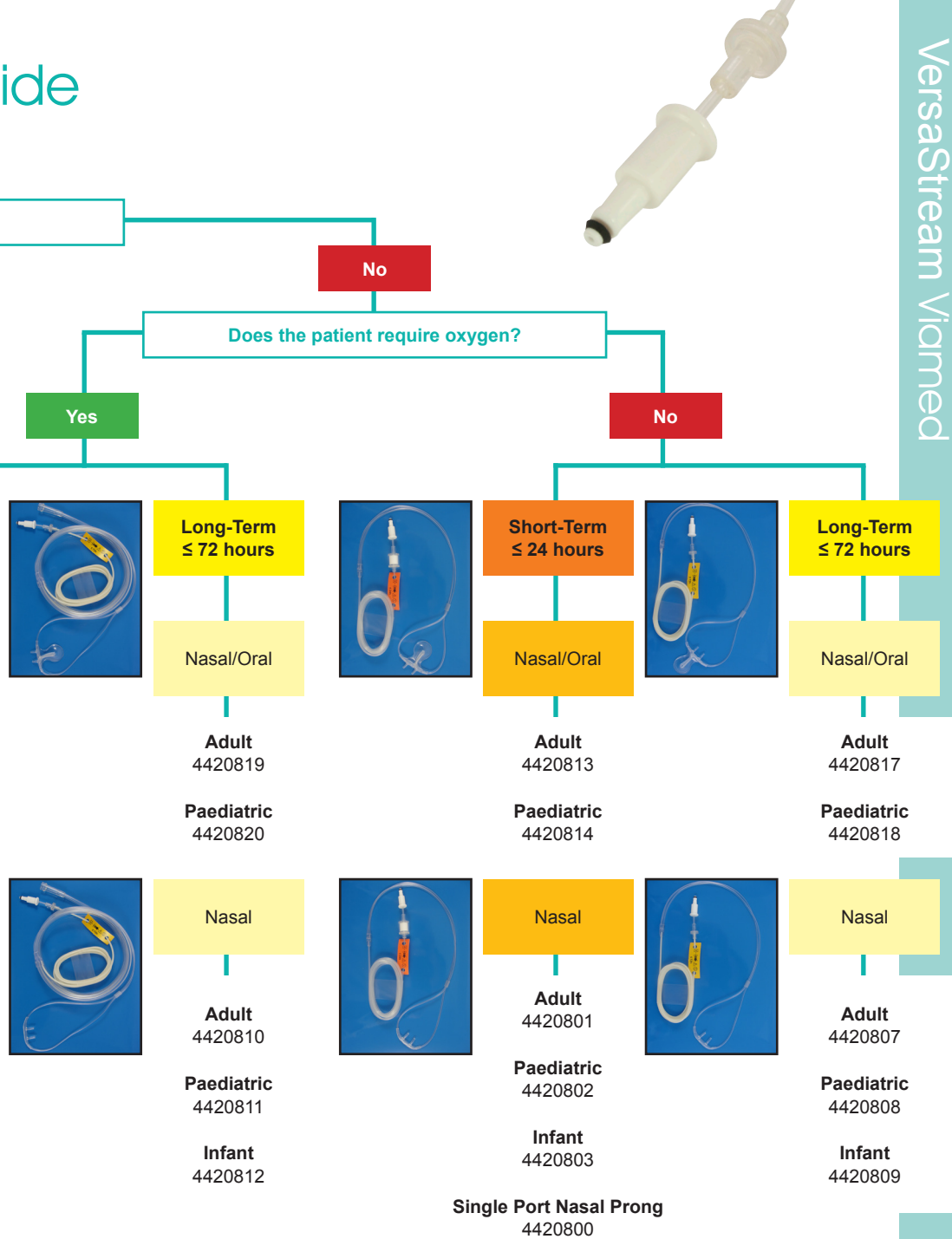


For use with patients that exceed 10 kg



For use with patients that are less than 10 kg

* can be used with anaesthetic agents



respironics compatible versastream



For use with patients that exceed 10 kg



For use with patients that are less than 10 kg

Is the patient intubated?

Yes



**Short-Term
≤ 24 hours**

Airway Adapter

Airway adapter connector sizes:

Adult/Paediatric
4420971

Infant
4420972

Adult/Paediatric 15 mm O.D. to 15 mm I.D. / 22 mm O.D.

Infant 15 mm O.D. to 4 mm I.D. / 15 mm I.D.



**Long-Term
≤ 72 hours**

Airway Adapter

Airway adapter connector sizes:

Adult/Paediatric
4420973

Infant
4420974

Adult/Paediatric 15 mm O.D. to 15 mm I.D. / 22 mm O.D.

Infant 15 mm O.D. to 4 mm I.D. / 15 mm I.D.



**Short-Term
≤ 24 hours**

Nasal/Oral

Adult
4420965

Paediatric
4420966



Luer Lock Male

Universal
4420975



Luer Lock Male

Universal
4420976



Nasal

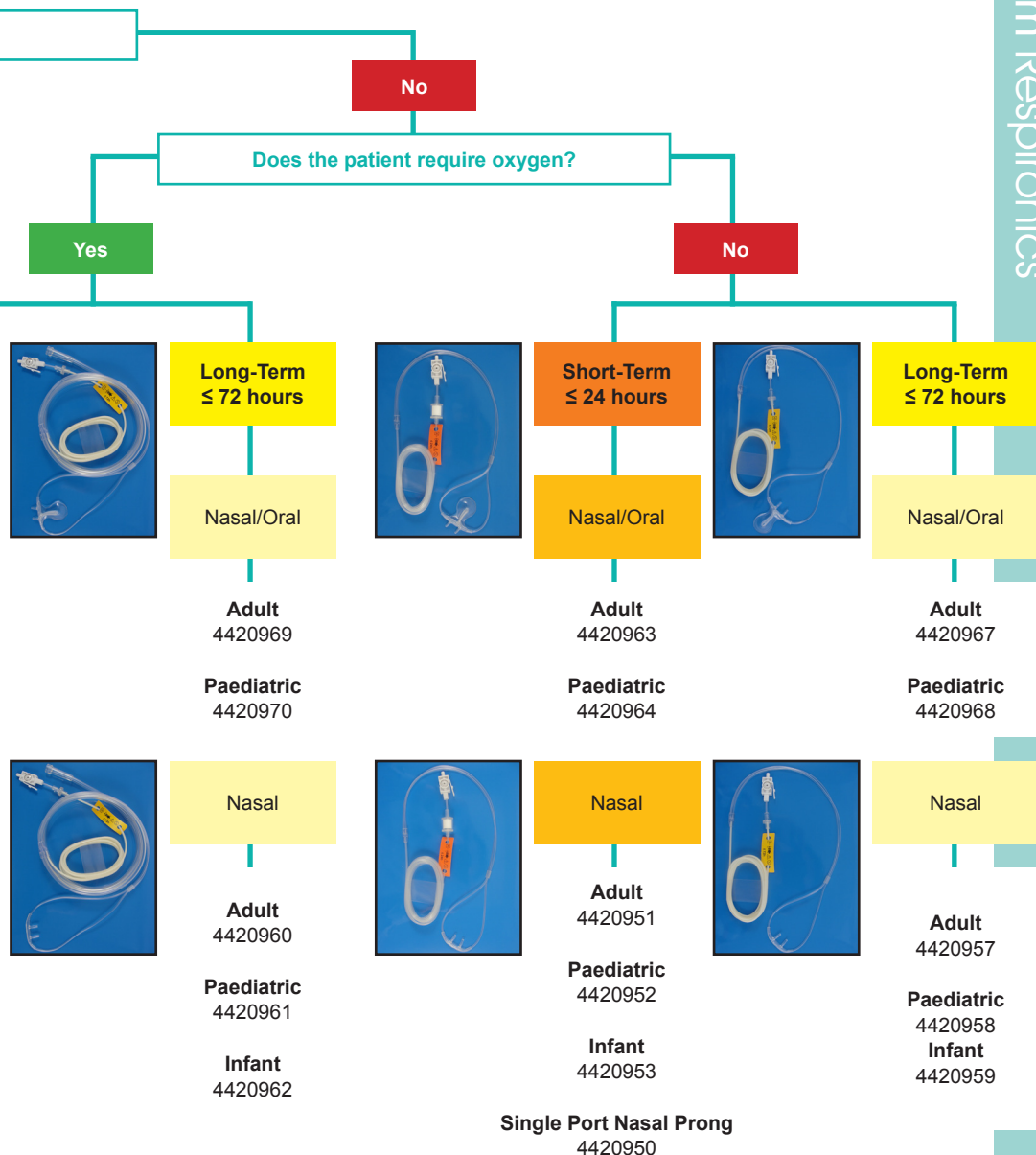
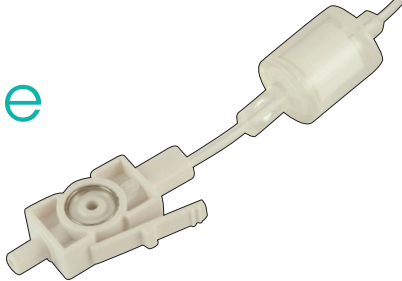
Adult
4420954

Paediatric
4420955

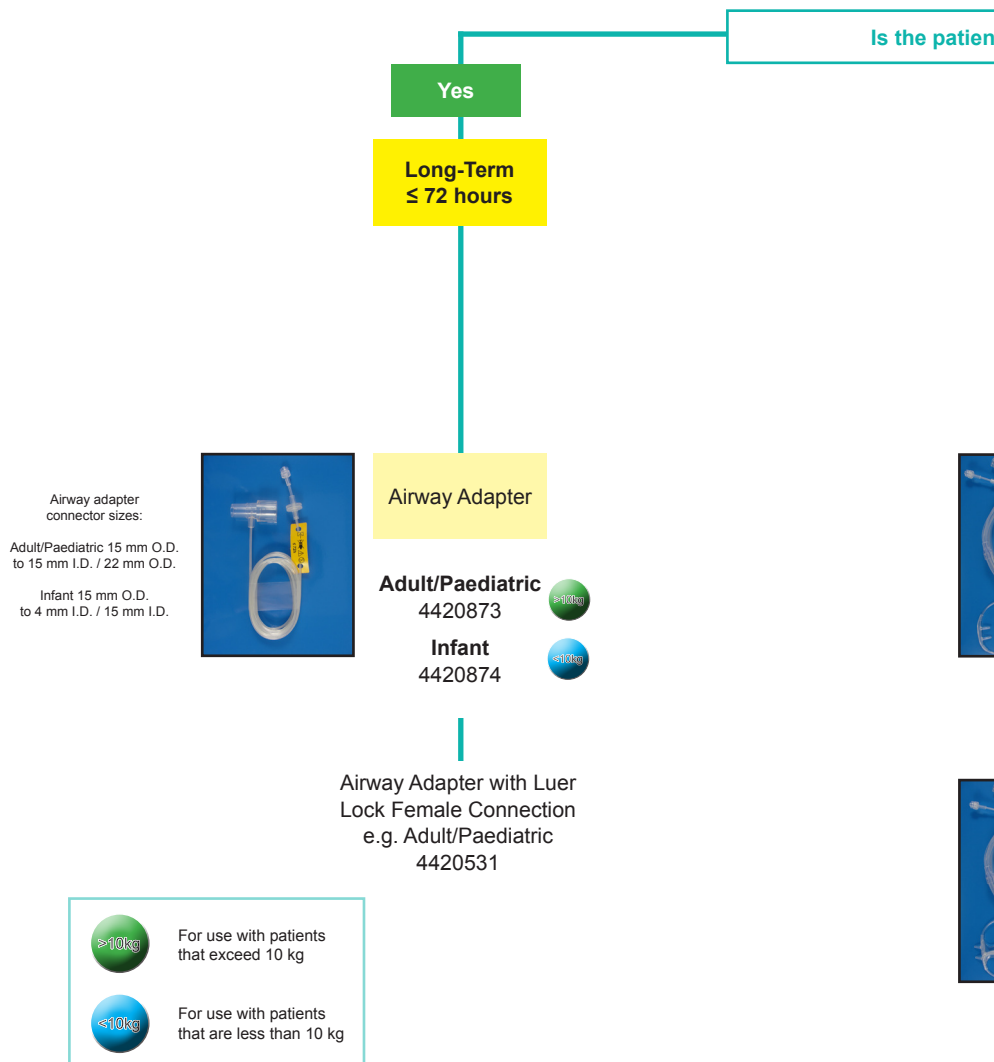
Infant
4420956

For use with
Airway Adapter with Luer
Lock Female Connection
e.g. Adult/Paediatric
4420531

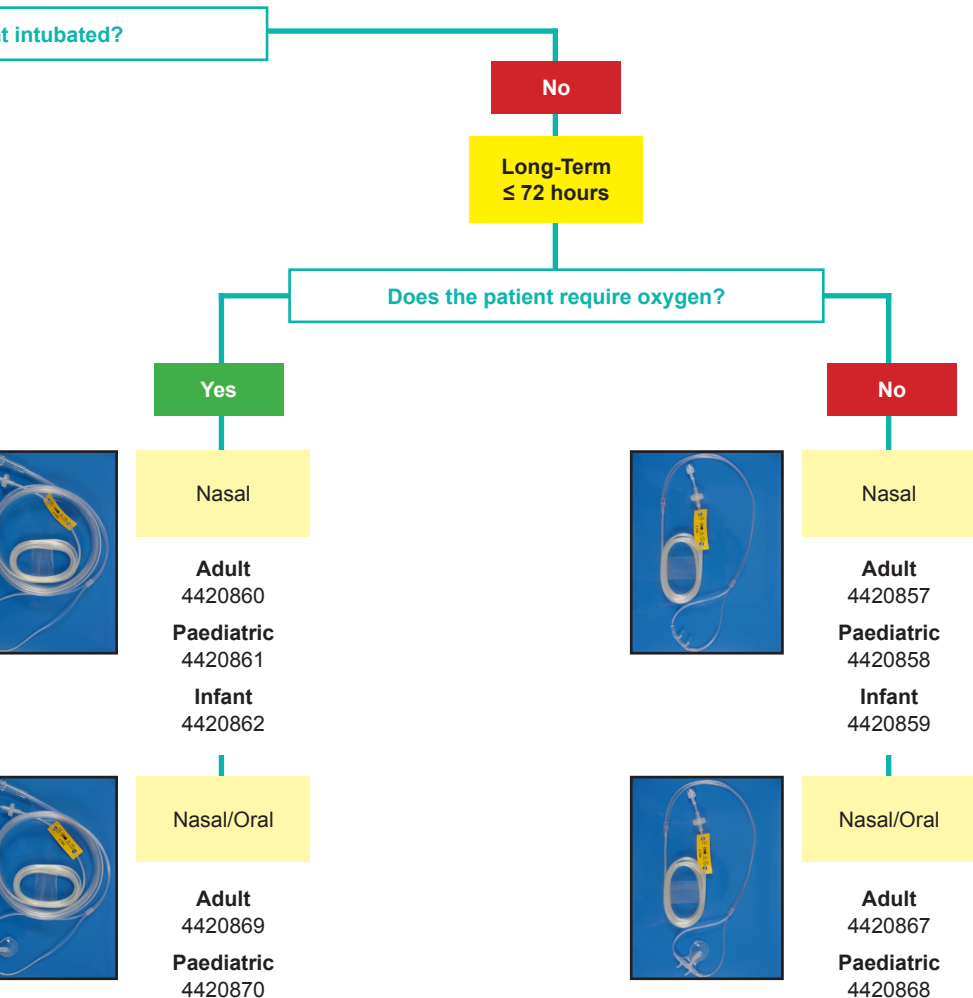
m selection guide



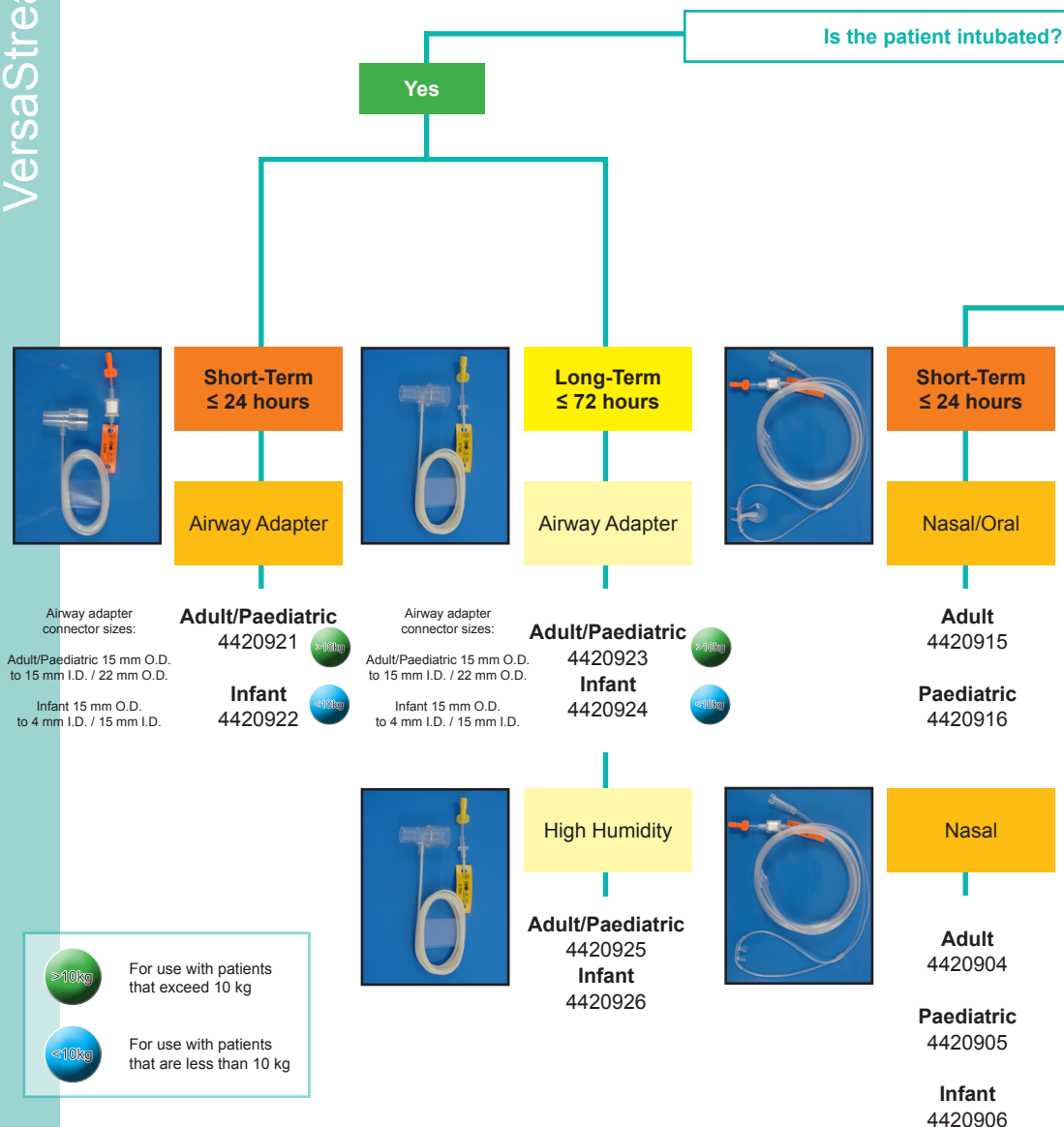
luer lock general purpose versastr

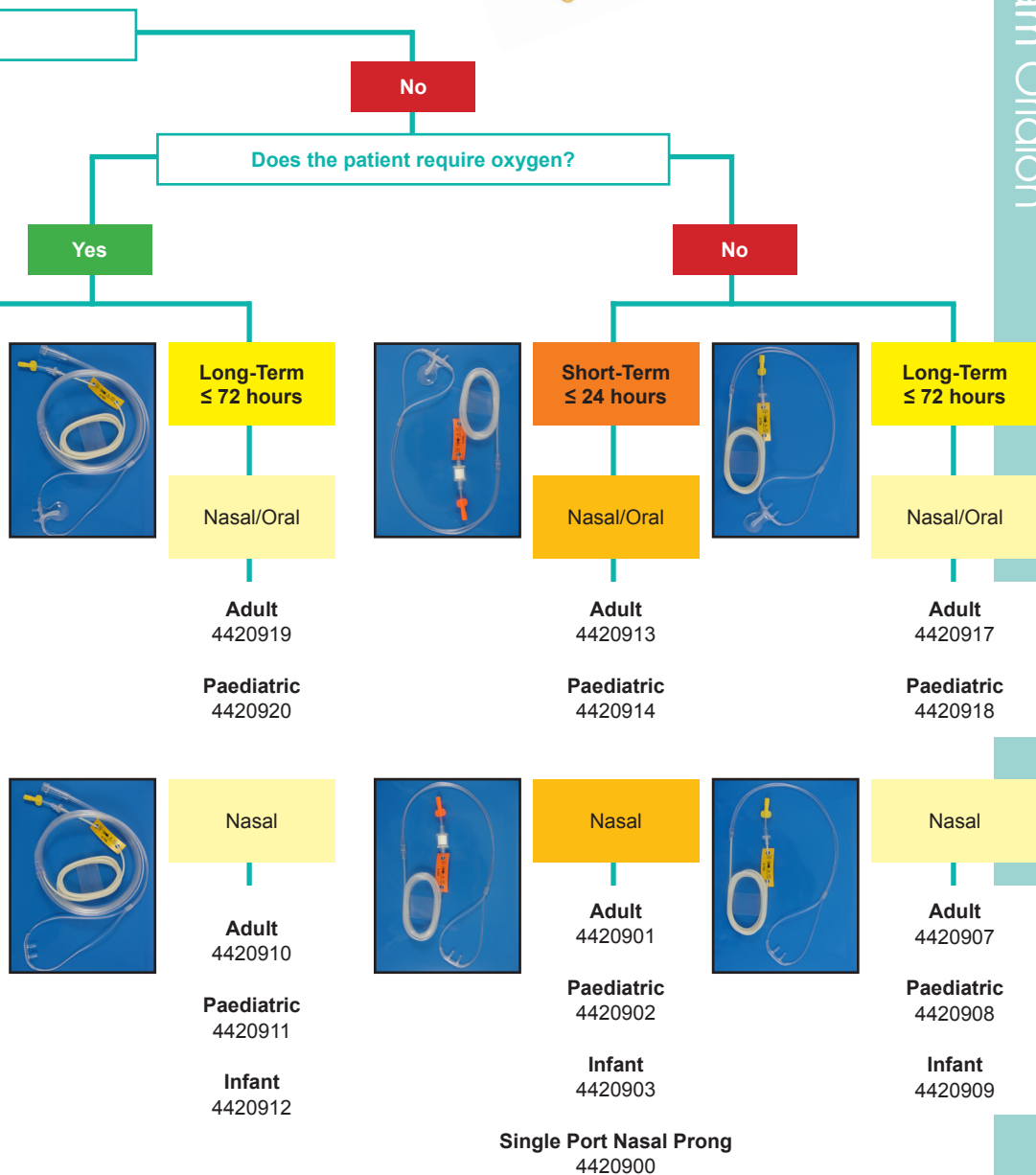


Team selection guide



oridion compatible versastream s





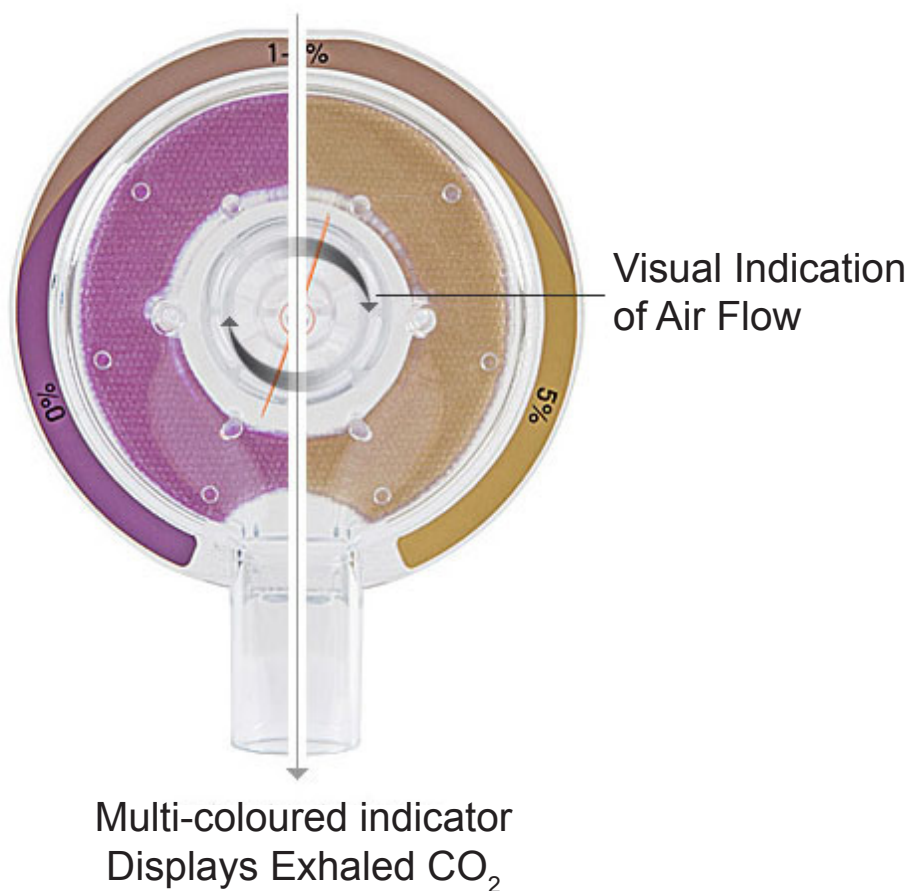
FLOCAP®

Flow Indicator & EtCO₂ Detector



- Long shelf life, currently tested to 36 months
- High definition colour changing material displays CO₂ %
- Patented flow indicator spinner
- Highly visible
- A quick way to determine end expiratory breath in addition to waveform CO₂ monitors

The FLOCAP is a single-use EtCO₂ & flow indication device designed for visualisation of a patient's exhaled CO₂ and expiratory flow. The EtCO₂ indication assists the user in verifying proper ET tube placement. The flow indicator helps the caregiver identify end of exhalation which may help prevent breath-stacking or overdistention and its associated health issues during resuscitation.





VIAMED

Viamed Limited · 15 Station Road · Cross Hills
Keighley · West Yorkshire · BD20 7DT · United Kingdom
Tel: +44 (0)1535 634 542 Fax: +44 (0)1535 635 582
Email: info@viamed.co.uk Website: www.viamed.co.uk



Part Number: ???????
Date: 08/18