# Medtronic

# Critical Care Product Ordering Guide



# Table of contents

| Disposable sensors  | 4  |
|---|----|
| Specialized sensors   | 4  |
| Reusable sensors  | 4  |
| Sensor extension cables   | 5  |
| RespArray patient monitor   | 6  |
| Starter kit   | 7  |
| Puritan Bennett™ cuff pressure system   | 7  |
| Nellcor <sup>™</sup> bedside SpO <sub>2</sub> patient monitoring system                             | 8  |
| Nellcor™ SpO <sub>2</sub> measurement module for use with Philips IntelliVue physiological monitors | 8  |
| Nellcor $^	imes$ portable SpO $_2$ patient monitoring system  | 9  |
| Capnostream™ 35 portable respiratory monitor  | 10 |
| Capnostream™35 connectivity cables  | 10 |
| CARESCAPE™ CO <sub>2</sub> - Microstream™ Parameter   | 10 |
| Microstream <sup>™</sup> capnography sampling lines   | 11 |
| Uni-junction™ technology  | 11 |
| Nomenclature for Microstream™ consumables   | 11 |
| Microstream™ Advance sampling lines   | 13 |
| Microstream™ Luer sampling lines  | 15 |
| OxyMask™ EtCO <sub>2</sub> with Microstream™ connector  | 16 |
| McGrath® MAC videolaryngoscope  | 17 |
| Vital Sync™ virtual patient monitoring platform & informatics manager                               | 18 |
| INVOS™ 7100 cerebral/somatic oximeter   | 19 |
| INVOS™ module for GE physiological monitor  | 19 |
| BIS™ - Consience level monitoring system and spectral density analysis                              | 20 |
| BIS™ sensors  | 21 |
| BIS™ 3.50 software with density spectral array  | 21 |
| Notes   | 22 |
| References  | 23 |

# Single-use sensors

# SpO<sub>2</sub> adhesive

Comfortable sensors adapted to the physiological site; suitable for long-term monitoring





Adults > 30 kg



Newborns/adults < 3 kg or > 40 kg



Newborns/

Newborns/adults < 3 kg or > 40 kg Soft silicone adhesive



Infants

Infants from 3 to 20 kg



Pediatric

Children from 10 to 50 kg

### STERILE

Catalog No.

MAXA/MAXAL\*

MAXN

OxysoftN

MAXI

MAXP

Caisse/24

\*91.4 CM (36") CABLE

# Specialized sensors

## MaxFast<sup>™</sup> Front sensor

For patients with low peripheral perfusion; suitable for long-term monitoring

STERILE

Adults/Pediatric





Adults/Pediatrics> 10 kg

**MAXFAST** 

Catalog No.

Caisse/24

# Specialized sensors

# SpO<sub>2</sub> Softcare<sup>™</sup> for adults/ newborns, non-adhesive

For patients with fragile skin; suitable for long-term monitoring

STERILE

Caisse/24

Adults



Adults > 40 kg

Newborns



Newborns from 1.5 to 5 kg

Premature newborns



Premature newborns < 1.5 kg

Catalog No.

SC-A

SC-NEO

SC-PR

# Reusable sensors

# SpO<sub>2</sub> sensors

Flexible, reusable SpO<sub>2</sub> sensor Silicone, can be submerged for disinfection Adults



Adults > 20 kg

Pediatric



Paediatric > 20 kg

Catalog No. Flexmax Flexmax-P

1 UN

# Reusable sensors

# SpO<sub>2</sub> sensors

Reusable clamp or reusable cable with disposable adhesive bandages



Adults > 40 kg



Adults/newborns < 3 kg or > 40 kgWith bandages

Newborns/Adults





Pediatrics/infants from 3 to 40 kg With bandages

Pediatrics/Infants

Catalog No.

**DS100A** 

OXI-A/N

OXI-P/I

1 UN

# Reusable sensors

# SpO<sub>2</sub> sensors

For use with bandage and clamp accessories





Multisites > 1 kg

D-YS

Ear clamp (clamp only)



D-YSE\*

Pediatric forceps (forceps only)



D-YSPD\*

\* D-YSE and D-YSPD require the use of D-YS

Catalog No.

1 UN

### Reusable sensors

### **Bandages for** reusable sensors

For reusable multi-site SpO<sub>2</sub> sensors

Velcro bandages



For OXI-P/I, OXI-A/N, D-YS



For OXI-A/N, D-YS

Adhesive bandages



For OXI-P/I, D-YS

Foam bandages



For OXI-A/N, D-YS



For OXI-P/I, D-YS

Catalog No.

**POSEY** 

ADH-A/N

ADH-P/I

FOAM A/N

FOAM P/I

Case/24 for POSEY, 100/pack for others

### Sensor extension cables

## Extension cables for sensors

For compatibility with your sensors and monitors, please contact your local representative For Nellcor<sup>™</sup> pulse oximeters with and without ÖxiMax<sup>™</sup> technology



1.2 m (4 ft) or 2.4 m (8 ft) sensor extension cable

For Nellcor pulse oximeters with OxiMax technology only



3 m (10 ft) patient interface cable

Catalog No. DEC4/DEC8 DOC10

1/package

# RespArray patient monitor™

### Features and specifications



RESPARRAYKIT

Monitor your most critical patients with exclusive built-in  $SpO_2$  (Nellcor<sup>™</sup> pulse oximetry) and  $EtCO_2$  (Microstream<sup>™</sup> capnography) algorithms, plus continuous ECG, non-invasive pressure (NIBP) and temperature readings. Includes HL7 interface and is compatible with Vital  $Sync^{™}$  and Wi-Fi.

#### **General features**

Data storage

Trends

| Unit dimensions        | 33.3 cm (W) $\times$ 26.4 cm (H) $\times$ 16.2 cm (D) |
|------------------------|---|
| Unit weight            | < 5 kg  |
| Screen size            | 13.3-inch color TFT LCD touchscreen                   |
| Screen resolution      | 1920 × 1080 pixels                                    |
| External power supply  |   |
| AC voltage             | 100 to 240 VAC  |
| Input current          | 1.6 A to 0.8 A  |
| Frequency              | 50/60 Hz  |
| Battery specifications |   |
| Battery type           | Rechargeable lithium-ion battery,<br>5-hour runtime   |
| Battery life           | $\geq$ 5 hours at full load                           |

#### Alarm management

Integrated Pulmonary Index™ Nellcor™ SatSeconds Apnea-Sat Alert™ Smart Alarm for Respiratory Analysis

### Microstream<sup>™</sup> capnography

CO<sub>2</sub> and EtCO<sub>2</sub> ranges 0-150 mmHg

### Nellcor™ pulse oximetry (SpO₂)

Measurement range 1-100%

### Electrocardiogram (ECG)

Probe mode 3 electrodes: I, II, III

5 electrodes: 1, II, III, aVR, aVL, aVF, V

### Non-invasive blood pressure (NIBP)

| Technical                 | Oscillometry                            |
|---------------------------|---|
| Modes                     | Manual, auto, sequential and continuous |
| Cuff pressure measurement | 0 mmHg to 300 mmHg                      |

#### **Temperature**

| Technical | Thermal resistance; continuous |
|-----------|--------------------------------|
| Position  | Cutaneous, oral/rectal         |

#### Data output and connectivity

| Connectivity options | HL7 interface for EMR connectivity   |
|----------------------|--|
| Data output          | Wi-Fi streaming data<br>4 USB Type A ports; USB 2.0 protocol<br>(accepts flash disk, barcode scanner,<br>mouse and keyboard)         |
| Video output         | HDMI type A port   |
| Nurse call           | Power supply:<br>≤ 12.6 VDC, max. 200 mA<br>Interface signal:<br>12 V power supply and PWM waveform<br>Interface type: PS2 connector |

### **Mounting options**

Compatibility with GCX product range (rolling support, pole clamp and articulated arm)

#### Warranty

Twelve months against manufacturing defects under normal conditions of use

| Kit code       | Description                      |                 |
|----------------|----------------------------------|-----------------|
| RESPARRAYKIT   | RespArray starter kit with DOC10 |                 |
| Contains:      |                                  |                 |
| Product code   | Description                      | Unit of measure |
| RPAYAHA01EFSBP | RespArray Patient Monitor        | 1 un/kit        |
| RPAYQSKAHA01   | RPAYQSKAHA01 Quick Start Kit AHA | 1 un/kit        |
| DOC10          | DOC10 Sensor Connection Cable X1 | 1 un/kit        |

Trend data 4800 hours to 1 second

# Starter kit

The RPAYQSKAHA01 starter kit contains:



5 lead snap/AHA complete cable



3 lead snap /IEC/AHA Defib cable



Main Connector Tubing



Large Adult Cuff



Regular Adult Cuff



Reusable Skin Probe

# Puritan Bennett<sup>™</sup> cuff pressure system<sup>‡</sup>

# Features and specifications



180-03

It is designed to handle cuffed endotracheal tubes or cuffed tracheostomy tubes for adult and pediatric patients in the following sizes:

**Cuffed endotracheal tubes:** sizes 3 to 10 (internal diameter) **Cuffed tracheostomy tubes:** sizes 2.5 to 10 (internal diameter of external cannula)

| Product code | Description              | Unit of measure |
|--------------|--------------------------|-----------------|
| 180-03       | Balloon pressure monitor | 1               |
| 180-05       | Extension tube (10 pcs.) | 1               |

### **Technical performance**

| Pressure adjustment range                       | $5 \text{ cm H}_2\text{O to } 50 \text{ cm H}_2\text{O}$ |
|---|--|
| Default target pressure for one-click inflation | 25 cm H <sub>2</sub> O                                   |
| Increasing the pressure maintenance target      | 5 cm H <sub>2</sub> O                                    |
| Time setting range for pressure maintenance     | 5 to 30 minutes  |
| Default setting for pressure hold time          | 5 minutes  |
| System accuracy of the device†                  | $\pm 2.5~\mathrm{cm}~\mathrm{H_2O}$                      |

#### Mechanical specifications

|  | Mechanical specifications       |   |  |
|--|---------------------------------|---|--|
|  | Pressure controller balloons    | Maximum dimensions:<br>120 mm x 145 mm x 59 mm<br>Maximum weight: 450 g (0.99208 lb.)   |  |
|  | Balloon pressure monitor screen | 57.54 mm x 111.2 mm x 4.75 mm, 3.2 inches diagonal  |  |
|  | Battery                         | The battery recharges while the balloon pressure controller is powered up and connected to an AC supply. It takes up to 12 hours to fully recharge the battery. |  |

### Warranty

Three years against manufacturing defects under normal conditions of use

<sup>†</sup>Device system accuracy is the accuracy threshold between the balloon pressure value displayed and the balloon pressure measured by a reference device.

<sup>‡</sup>Licensed as Puritan Bennett cuff pressure manager.

# Nellcor™ bedside SpO₂ patient monitoring system

### Features and specifications



NELL-SPO2-AD3

#### **Performance**

#### Measurement range

| $SpO_2$         | 1 % à 100 %                      |
|-----------------|----------------------------------|
| Heart rate      | 20 to 250 beats per minute (bpm) |
| Pulse amplitude | 0,03 % à 20 %                    |

#### Precision

| Saturation    | (% $SpO_2 \pm 1$ standard deviation) |
|---------------|--------------------------------------|
| Adults        | 70% to 100% ± 2<br>60% to 80% ± 3    |
| Newborns      | 70 % à 100 % ± 3                     |
| Low perfusion | 70 % à 100 % ± 2                     |
| Heart rate    | 20 to 250 bpm ± 3                    |
| Low perfusion | 20 to 250 bpm ± 3                    |

### Warranty

Three-year warranty against manufacturing defects under normal operating conditions

| Kit code      | Description  |
|---------------|--|
| NELL-SPO2-AD3 | Nellcor bedside monitor (5-hour battery) including DOC10 cable only <sup>†</sup> |

#### **Electrical data**

### **Battery**

| Туре             | lithium-ion                     |
|------------------|---------------------------------|
| Battery capacity | minimum 5 hours when new, fully |
|                  | charged and without alarms      |

### Compliance

EN ISO 9919:2009, EN ISO 80601-2-61:2011

EN CEI 60601-1:2005

EN CEI 60601-1-2: 2nd edition

EN CEI 60601-1:1998 + A1:1991 + A2:1995

EN 60601-1:1990 + A11:1993 + A12:1993 + A13:1996

CAN/CSA C22.2 No 601.1 M90 UL 60601-1: 1st edition

### Output

USB port for downloading trend data

Audible and visual alarms for saturation and heart rate

| Alarm settings<br>SatSeconds | 10, 25, 50, 100 or disabled |  |
|------------------------------|-----------------------------|--|
|                              |                             |  |

Visual and audible low battery and disconnection indicators sensors

Connection to nurse call bell

### **Optional accessories**

| GCX rolling base | 10002385   |  |
|------------------|------------|--|
| Adapter plate    | 10005950   |  |
| 16h battery      | PT00155475 |  |

# SpO<sub>2</sub> Nellcor™ for use with Philips IntelliVue physiological monitors

# Features and specifications

All-in-one: Nellcor™ SpO<sub>2</sub> measurement module for Philips™ monitor



sensor

Reusable OxiMax™

OxiMax<sup>™</sup> adhesive sensor

MaxFast<sup>™</sup> front sensor

easy to operate



Non-adhesive SoftCare™ sensor for adults, newborns and infants

#### Compliance

Compliance with IEC 60601-1, IEC 60601-1-2, CSA C22.2 No. 601.1-M90AMD2, ISO 9919, IEC 80601-2-61 Type CF applied part, defibrillator resistant US Federal law restricts the sale of this device to a physician or on his prescription

| Product code | Description   |
|--------------|---|
| 10076644     | Nellcor Bedside SpO <sub>2</sub> Patient Monitoring System (includes M1943NL cable) |

### Precision

| Saturation      | (% $SpO_2 \pm 1$ standard deviation) |
|-----------------|--------------------------------------|
| Adults/newborns | 70% to 100% ± 2<br>60% to 80% ± 3    |
| Low perfusion   | 70 % à 100 % ± 2                     |
| Heart rate      | 25 to 250 bpm ± 3                    |
| Low perfusion   | 25 to 250 bpm ± 3                    |

#### Compatible with Philips IntelliVue systems

MP40, MP50, MP60, MP70, MP80, MP90, MX800

\*Software revision C.0 or higher

### Warranty

One-year warranty against manufacturing defects under normal operating conditions.

A Philips M1943NL cable, required for use with the Nellcor SpO, measurement module, is included.



†Bundle containing 10005941 and DOC-10 licenced as: Nellcor Bedside SpO, Patient Monitoring System -Main Unit and Nellcor Bedside SpO, Patient Monitoring System - Pulse Oximetry Interface Cable.

# Nellcor™ portable SpO₂ patient monitoring system

### Features and specifications



- Small, lightweight, ergonomic portable monitor for continuous and spot monitoring of pulse oximetry and heart rate
- Supports a data set including real-time saturation and heart rate values, SatSeconds alarm management, plethysmographic plot, tabular and graphical trends
- Several modes available including "Standard" mode for use in hospitals and transport, "Home Care" mode for home care and
  - "Sleep study" mode for sleep studies
- Compatible with the full range of Nellcor<sup>™</sup> OxiMax<sup>™</sup> sensors
- 80 hours of data storage capacity

### Accessories

| Product code | Description               |
|--------------|---------------------------|
| PMAC10N-P    | Protective cover (pink)   |
| PMAC10N-B    | Protective cover (blue)   |
| PMAC10N-N    | Protective cover (marine) |
| PMAC10N-G    | Protective cover (green)  |
| PMAC10N-T    | Protective carrying case  |

#### **Performance**

### Measurement range

| $SpO_2$         | 1 % à 100 %                      |
|-----------------|----------------------------------|
| Heart rate      | 20 to 250 beats per minute (bpm) |
| Pulse amplitude | 0,03 % à 20 %                    |

#### **Precision**

#### Saturation

| Saturation                         |                  |
|------------------------------------|------------------|
| Adults                             | 70 % à 100 % ± 2 |
| Low-saturation adults and neonates | 60 % à 80 % ± 3  |
| Newborns                           | 70 % à 100 % ± 2 |
| Low perfusion                      | 70 % à 100 % ± 2 |

#### Heart rate

| Adults and newborns | 20 to 250 bpm ± 3 |
|---------------------|-------------------|
| Low perfusion       | 20 to 250 bpm ± 3 |

#### **Electrical data**

#### Battery

Four 3,000 mAh lithium batteries typically provide 20 hours of monitoring without external communication.

| Туре    | AA lithium |
|---------|------------|
| Voltage | 1.5 V x 4  |

### Compliance

CEI 60601-1:2005 + A1:2012, EN 60601-1:2006 + AC:2010

CEI 60601-1:1998 + A1:1991 + A2:1995, EN 60601-1:1990 + A11:1993 + A12:1993 + A13:1996

CEI 60601-1-2:2007, EN 60601-1-2:2007

CEI 60601-1-6:2010, EN 60601-1-6:2010 + A1:2013

CEI 60601-1-8:2006, EN 60601-1-8:2006 +A1:2012

CEI 60601-1-11:2010, EN 60601-1-11:2010

ISO 9919:2005, EN ISO 9919:2009

ISO 80601-2-61:2011, EN ISO 80601-2-61:2011

CAN/CSA C22.2 No 601.1 M90

UL 60601-1: 1st edition

### Displays/indicators

| Screen size | 88.9 mm (3.5 in)                |
|-------------|---------------------------------|
| Screen type | TFT LCD, white LED backlighting |
| Resolution  | 320 x 480 pixels                |

#### **Alarms**

Audible and visual heart rate alarms and saturation alarms

SatSeconds alarm settings 10, 25, 50, 100 or disabled

Visual and audible low battery and sensor disconnection indicators

| Product code   | Description   |
|----------------|---|
| PM10N-AD3      | Portable Nellcor monitor (includes PM10N monitor and DS100A sensor)                           |
| PM10N-AD3-BOOT | Portable Nellcor monitor (includes PM10N monitor, DS100A sensor and PMAC10N-N Navy Blue case) |

# Portable respiratory monitor Capnostream™ 35

# Features and specifications



PM35MN02-AD3

### Microstream<sup>™</sup> capnography

| CO <sub>2′</sub> d'EtCO <sub>2</sub> range | 0 to 150 mmHg                             |
|--|---|
| Sampling rate                              | 50 mL/min                                 |
| Respiratory frequency                      | 0 to 150 breaths/minute                   |
| Modes                                      | newborns, infants, paediatrics and adults |
| Screen                                     | 109 mm (4.3") TFT color display           |
| Protection against intrusion               | IP54                                      |
| Drop test at 1.25 m                        |   |
| Battery life                               | 3 hours (at full capacity)                |
| Internal battery life                      | 20 minutes                                |

## Saturometry Nellcor™ Oximax

| SpO <sub>2</sub> range                  | ± 2 over the 70% to 100% range, ± 3 at low saturation (60% to 80%) |  |  |
|---|--|--|--|
| Heart rate range                        | 20 to 250 beats per minute   |  |  |
| Frequency accuracy pulse                | ± 3  |  |  |
| Alarm management<br>Nellcor™ SatSeconds | 10, 25, 50, 100 or disabled  |  |  |

### Compliance

CEI 60601-1, CEI 60601-1-2, CEI 60601-2-49, CEI 60601-1-12, CEI 60601-1-8, ISO 80601-2-61, ISO 80601-2-55, ISO 15223-1

#### **Accessories**

| Pole clamp                 | PM35MNF  |
|----------------------------|----------|
| Pole clamp  Mounting plate | PM35VAA  |
| External charger           | PM35CHG  |
| Additional battery         | PM35BTY  |
| Power supply               | PM35PSP2 |

### Warranty

Three-year warranty against manufacturing defects under normal conditions of use

| Kit code     | Description  |
|--------------|--|
| PM35MN02-AD3 | Capnostream <sup>™</sup> 35 respiratory monitor <sup>†</sup> (including DOC10 cable) |

# Capnostream<sup>™</sup> connectivity cables 35

Adapter cables enable the Capnostream $^{\text{\tiny{TM}}}$  35 respiratory monitor to connect to data management systems and electronic records.

| Product<br>code | Description                   | Unit of<br>measure |
|-----------------|-------------------------------|--------------------|
| PM35ACETH       | USB to Ethernet adapter cable | 1 UN               |
| PM35ACRS232     | USB to RS232 adapter cable    | 1 UN               |





PM35ACETH

PM35ACRS232

# **CARESCAPE™ CO<sub>2</sub> - Microstream™ Parameter**

This module integrates Microstream  $^{\text{\tiny TM}}$  CO $_2$  technology into GE CARESCAPE monitors.

| Dua duat an da | Description                                  |
|----------------|--|
| Product code   | Description                                  |
| PMC40M-GE      | Microstream™ module for GECARESCAPE™ monitor |





PMC40M-GE

# Microstream<sup>™</sup> capnography sampling lines

# Sampling line range

- Microstream<sup>™</sup> Advance sampling lines dedicated to Microstream capnography monitors and physiological monitors equipped with Microstream technology
  - Orange connectors for short-term short-term monitoring
  - Yellow connectors for long-term monitoring (integrated Nafion filters for moisture removal)
- Microstream™ Luer™ sampling lines (blue connector) compatible with standard LuerLock connectors

### **Connectors**



Orange connector Short-term use Sampling lines designed for procedural monitoring



Yellow connector Extended use Sampling lines designed for continuous monitoring



Blue connector Sample lines for standard LuerLocks

# Integrated oxygen tubing



O<sub>2</sub> male

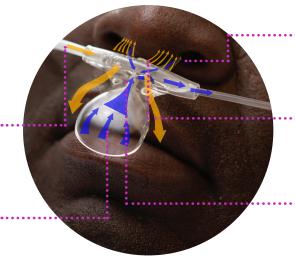


Connector O<sub>2</sub> female

# Uni-junction technology™

The kink-resistant tubing is designed to reduce oxygen flow interruptions and avoid nuisance alarms.

> The buccal cupola enables CO<sub>2</sub> to be sampled from mouthbreathing patients.



Nasal cannula for sampling exhaled CO<sub>2</sub>

Uni-Junction<sup>™</sup> technology enables independent CO, sampling and O<sub>2</sub> delivery via nose and mouth.

Oxygen is delivered in laminar flow via small openings near the mouth and nose.

# Parts list for Microstream<sup>™</sup> consumables

Intuitive terminology makes it easy to determine the right sampling line for each patient.

| Category:           | MV (Microstream <sup>™</sup> Advance sampling lines) ML ( Microstream <sup>™</sup> Luer sampling lines) |
|---------------------|---|
| Size:               | A (Adults) P (Paediatrics) I (Infants/newborns)   |
| Line type sampling: | N (Nasal) I (Intubated) B (Guardian mouthpieces)  |

| Oxygen:   | O (With oxygen)                          |
|-----------|--|
| Humidity: | H (Humidity)<br>HH (High humidity)       |
| Length:   | L (Long)<br>XL (Extra long)              |
| Quantity: | <b>100U</b> indicates a box of 100 units |

# Microstream™ Advance sampling lines

# Non-intubated patients, short-term use: intervention/emergency

## **Products and features**



Connector for O<sub>2</sub> male

# Adults Microstream oral and nasal sampling lines™ Advance

- Samples by mouth and nose
- Oxygen administration tubing

# **Ordering information**

| Product<br>code | Configuration                       | Oty per<br>box | Length                  |
|-----------------|-------------------------------------|----------------|-------------------------|
| MVA             | Connector for O <sub>2</sub> male   | 25             | Standard: 6.5 ft/200 cm |
| MVA100U         | Connector for O <sub>2</sub> male   | 100            | Standard: 6.5 ft/200 cm |
| MVAL            | Connector for O <sub>2</sub> male   | 25             | Long: 13 ft/400 cm      |
| MVAL100U        | Connector for O <sub>2</sub> male   | 100            | Long: 13 ft/400 cm      |
| MVAO            | Connector for O <sub>2</sub> female | 25             | Standard: 6.5 ft/200 cm |
| MVAO100U        | Connector for O <sub>2</sub> female | 100            | Standard: 6.5 ft/200 cm |
| MVAOL           | Connector for O <sub>2</sub> female | 25             | Long: 13 ft/400 cm      |
| MVAOL100U       | Connector for O <sub>2</sub> female | 100            | Long: 13 ft/400 cm      |



### Pediatric Microstream™ Advance oral and nasal sampling lines

- Samples by mouth and nose
- Available with or without administration of O<sub>2</sub>

| Product<br>code | Configuration                       | Oty per<br>box | Length                  |
|-----------------|-------------------------------------|----------------|-------------------------|
| MVP             | Without O <sub>2</sub> tubing       | 25             | Standard: 6.5 ft/200 cm |
| MVPO            | Connector for O <sub>2</sub> female | 25             | Standard: 6.5 ft/200 cm |
| MVPOL           | Connector for O <sub>2</sub> female | 25             | Long: 13 ft/400 cm      |



### Adults and children Microstream™ Advance nasal sampling lines

- Nasal sampling only
- Oxygen administration tubing

| Product<br>code | Configuration                       | Oty per<br>box | Patient<br>type | Length                     |
|-----------------|-------------------------------------|----------------|-----------------|----------------------------|
| MVANO           | Connector for $O_2$ female          | 25             | Adults          | Standard:<br>6.5 ft/200 cm |
| MVANO100U       | Connector for O <sub>2</sub> female | 100            | Adults          | Standard:<br>6.5 ft/200 cm |
| MVANOL          | Connector for O <sub>2</sub> female | 25             | Adults          | Length:<br>13 ft/400 cm    |
| MVANOL100U      | Connector for $O_2$ female          | 100            | Adults          | Length:<br>13 ft/400 cm    |
| MVPNO           | Connector for $O_2$ female          | 25             | Pediatric       | Standard:<br>6.5 ft/200 cm |



# Adults, pediatrics and neonates Microstream™ Advance

- nasal sampling linesNasal sampling only
- Without O<sub>2</sub>

| Product code | Oty per<br>box | Patient type         | Length                  |
|--------------|----------------|----------------------|-------------------------|
| MVAN         | 25             | Adults               | Standard: 6.5 ft/200 cm |
| MVPN         | 25             | Pediatric            | Standard: 6.5 ft/200 cm |
| MVIN         | 25             | Infants and newborns | Standard: 6.5 ft/200 cm |



connector for O, male



# Sampling lines with mouthpiece

- Samples by mouth and nose
- Tubing for oxygen administration up to 10L/min
- Mouthpiece for the passage of an endoscope costing 60Fr or less.

| Product<br>code | Configuration                       | Oty per<br>box | Length                  |
|-----------------|-------------------------------------|----------------|-------------------------|
| MVAB            | Connector for O <sub>2</sub> male   | 25             | Standard: 6.5 ft/200 cm |
| MVABO           | Connector for O <sub>2</sub> female | 25             | Standard: 6.5 ft/200 cm |
| MVABOL          | Connector for O <sub>2</sub> female | 25             | Long: 13 ft/400 cm      |
| MVAB100U        | Connector for O <sub>2</sub> male   | 100            | Standard: 6.5 ft/200 cm |
| MVABO100U       | Connector for O <sub>2</sub> female | 100            | Standard: 6.5 ft/200 cm |
| MVABOL100U      | Connector for O <sub>2</sub> female | 100            | Long: 13 ft/400 cm      |

# Microstream<sup>™</sup> Advance sampling lines (cont'd)

# Intubated patients, short-term use: intervention/emergency

### **Products and features**



# Adults and children Microstream sampling lines™

- For use with endotracheal tubes larger than 4.5mm diameter
- Dead space: less than 6.6cc and weight of 7.0g

# Ordering information

| Product code | Oty per<br>box | Length                  |
|--------------|----------------|-------------------------|
| MVAI         | 25             | Standard: 6.5 ft/200 cm |
| MVAI100U     | 100            | Standard: 6.5 ft/200 cm |
| MVAIL        | 25             | Long: 13 ft/400 cm      |

# Non-intubated patients, long-term use: critical care

### Products and features



### **Adults**

### Microstream<sup>™</sup> Advance oral and nasal sampling lines

- Samples by mouth and nose
- Integrated humidity reduction technology
- Oxygen administration tubing

# Ordering information

| Product code | Configuration                       | Oty per<br>box | Length                     |
|--------------|-------------------------------------|----------------|----------------------------|
| MVAOH        | Connector for O <sub>2</sub> female | 25             | Standard:<br>6.5 ft/200 cm |
| MVAOH100U    | Connector for O <sub>2</sub> female | 100            | Standard:<br>6.5 ft/200 cm |
| MVAOHL       | Connector for O <sub>2</sub> female | 25             | Long:<br>13 ft/400 cm      |



### **Pediatric**

### Microstream<sup>™</sup> Advance oral and nasal sampling lines

- Samples by mouth and nose
- Integrated humidity reduction technology
- Oxygen administration tubing

| Product code | Configuration              | Oty per<br>box | Length                     |
|--------------|----------------------------|----------------|----------------------------|
| MVPOH        | Connector for $O_2$ female | 25             | Standard:<br>6.5 ft/200 cm |
| MVPOHL       | Connector for $O_2$ female | 25             | Long:<br>13 ft/400 cm      |



## Microstream™ Advance nasal sampling lines

Adults, pediatrics and neonates

- Nasal sampling only
- Integrated humidity reduction technology
- Oxygen administration tubing



|           | Product code | Configuration                       | Oty per<br>box | Length                     |
|-----------|--------------|-------------------------------------|----------------|----------------------------|
| Adults    | MVANH        | Without O <sub>2</sub> tubing       | 25             | Standard:<br>6.5 ft/200 cm |
| Ad        | MVANOH       | Connector for O <sub>2</sub> female | 25             | Standard:<br>6.5 ft/200 cm |
| Pediatric | MVPNOH       | Connector for $O_2$ female          | 25             | Standard:<br>6.5 ft/200 cm |
| ns.       | MVINH        | Without O <sub>2</sub> tubing       | 25             | Standard:<br>6.5 ft/200 cm |
| Newborns  | MVINOH       | Connector for O <sub>2</sub> female | 25             | Medium:<br>9.8 ft/300 cm   |
| ž         | MVINHL       | Without O <sub>2</sub> tubing       | 25             | Long:<br>13 ft/400 cm      |

# Microstream™ Advance sampling lines (cont'd)

### Intubated patients, prolonged use

### **Products and features**



### Adults and children

### Microstream™ sampling lines Advance

- For use with endotracheal tubes larger than 4.5mm diameter
- Integrated humidity reduction technology
- Dead space: less than 6.6cc and weight of 7.0g

# Ordering information

| Product code | Oty per<br>box | Length                  |
|--------------|----------------|-------------------------|
| MVAIH        | 25             | Standard: 6.5 ft/200 cm |
| MVAIH100U    | 100            | Standard: 6.5 ft/200 cm |
| MVAIHL       | 25             | Long: 13 ft/400 cm      |



#### **Newborns**

### Microstream™ sampling lines Advance

- For use with endotracheal tubes up to 4.5mm in diameter.
- Integrated humidity reduction technology
- Dead space: equal to or less than 0.5cc and weight of 3.8g

| Product code | Qty per<br>box | Length                  |
|--------------|----------------|-------------------------|
| MVIIH        | 25             | Standard: 6.5 ft/200 cm |
| MVIIHL       | 25             | Long: 13 ft/400 cm      |



#### Adults and children

### Microstream<sup>™</sup> sampling lines Advance

- With endotracheal tubes larger than 4.5mm diameter
- Improved technology for long-term monitoring (integrated Nafion filters for moisture removal)
- Dead space: less than 6.6cc and weight of 7.0g

| Product<br>code | Oty per<br>box | Length                  |
|-----------------|----------------|-------------------------|
| MVAIHH          | 25             | Standard: 6.5 ft/200 cm |



### Newborns

### Microstream<sup>™</sup> sampling lines Advance

- For use with endotracheal tubes up to 4.5mm in diameter.
- Improved technology for long-term monitoring (integrated Nafion filters for moisture removal)
- Dead space: equal to or less than 0.5cc and weight of 3.8g

| Product<br>code | Oty per<br>box | Length                  |
|-----------------|----------------|-------------------------|
| MVIIHH          | 25             | Standard: 6.5 ft/200 cm |

### Accessories

### **Products and features**



## For patients undergoing MRI

### Microstream™ sampling lines Advance

 For use during MRI when the monitor is placed outside the suite and a long sample line is required

# Ordering information

| Product<br>code | Configuration                | Oty per<br>box | Patient<br>type | Length       |
|-----------------|------------------------------|----------------|-----------------|--------------|
| MVXL            | Without <sub>02</sub> tubing | 25             | All             | 30 ft/900 cm |

# Microstream<sup>™</sup> Luer sampling lines<sup>†</sup>

# Non-intubated patients, short-term use: intervention/emergency/operating room

### **Products and features**



### Adults Microstream™ Luer nasal sampling lines

- Samples by mouth and nose
- Oxygen administration tubing

# Ordering information

| Product code | Configuration                      | Qty per<br>box | Length                     |
|--------------|------------------------------------|----------------|----------------------------|
| MLA          | Connector for <sub>O2</sub> male   | 25             | Standard:<br>6.5 ft/200 cm |
| MLAO         | Connector for <sub>O2</sub> female | 25             | Standard:<br>6.5 ft/200 cm |
| MLA100U      | Connector for <sub>O2</sub> male   | 100            | Standard:<br>6.5 ft/200 cm |
| MLAO100U     | Connector for <sub>O2</sub> female | 100            | Standard:<br>6.5 ft/200 cm |



### Pediatric Microstream™ Luer nasal sampling lines

- Samples by mouth and nose
- Oxygen administration tubing

| Product code | Configuration                      | Oty per<br>box | Length                     |
|--------------|------------------------------------|----------------|----------------------------|
| MLPO         | Connector for <sub>O2</sub> female | 25             | Standard:<br>6.5 ft/200 cm |



### Adults and children Microstream™ Luer nasal sampling lines

- Nasal sampling only
- Oxygen administration tubing

| Product code | Configuration                      | Oty per<br>box | Patient<br>type | Length                     |
|--------------|------------------------------------|----------------|-----------------|----------------------------|
| MLANO        | Connector for <sub>02</sub> female | 25             | Adults          | Standard:<br>6.5 ft/200 cm |
| MLPNO        | Connector for <sub>02</sub> female | 25             | Pediatric       | Standard:<br>6.5 ft/200 cm |



# Microstream<sup>™</sup> Luer sampling lines with mouthpiece

- Samples by mouth and nose
- Tubing for oxygen administration up to 10L/min
- Mouthpiece for passage of endoscope 60Fr and under

| Product code | Configuration                      | Oty per<br>box | Length                     |
|--------------|------------------------------------|----------------|----------------------------|
| MLABO        | Connector for <sub>O2</sub> female | 25             | Standard:<br>6.5 ft/200 cm |
| MLABOL       | Connector for <sub>O2</sub> female | 25             | Long:<br>13 ft/400 cm      |

# Microstream<sup>™</sup> Luer sampling lines<sup>§</sup> (cont'd)

# Intubated patients, short-term use: intervention/emergency/operating room

### **Products and features**



#### Adult

Microstream sampling line<sup>™</sup> Luer for intubated patients

• With endotracheal tubes larger than 4.5mm diameter

# Ordering information

| Product<br>code | Oty per<br>box | Length                  |
|-----------------|----------------|-------------------------|
| MLAI            | 25             | Standard: 6.5 ft/200 cm |

## Accessories

### **Products and features**







MI

010989

# Ordering information

| Product code | Configuration  | Oty per<br>box |
|--------------|--|----------------|
| 010555       | Male/male Luer adapter   | 25             |
| 010989       | Airway adapter   | 25             |
| ML           | CO <sub>2</sub> sampling line (short-term: intervention/emergency) | 25             |

# OxyMask<sup>™†</sup> EtCO<sub>2</sub> with Microstream<sup>™</sup> connector<sup>‡</sup>

# Non-intubated patients, short-term use: Intervention/Emergency/General care units

### **Products and features**



Adults and children
OxyMask™ EtCO<sub>2</sub> with Microstream™
connector

# Ordering information

| Product code | Qty per<br>box | Type of patient |
|--------------|----------------|-----------------|
| OM-2125-MDT  | 25             | Adults          |
| OK-2125-MDT  | 25             | Pediatric       |
| OP-2125-MDT  | 25             | Adults, large   |

 $<sup>\</sup>dagger$ OxyMask $^{\mathsf{TM}}$  EtCO $_2$  with Microstream $^{\mathsf{TM}}$  connector is manufactured by Southmedic and distributed by Medtronic.  $\dagger$ Licensed as OxyMask O $_2$ /EtCO $_2$ .

<sup>§</sup>Licensed as Microstream Advance Non-Intubated Lines.

# McGrath® MAC videolaryngoscope

# Features and specifications

### **Technical specifications**

| Dimensions   | 180 mm x 68 mm x 110 mm   |  |
|--------------|---|--|
| Weight       | 180 g   |  |
| Power supply | 3.6 V lithium battery<br>(250-minute runtime)   |  |
| Light source | High-intensity LEDs   |  |
| Display      | 2.5" color LCD screen   |  |
| Camera       | CMOS  |  |
| Materials    | Durable medical-grade thermoplastics with reinforced alloy structural core.  Device and packaging are latex-free. |  |

### McGRATH® MAC disposable blades

| Material  | medical-grade anti-fog optical polymer |
|-----------|--|
| Packaging | sterile packaging for single use       |

| Product code | Description                                    | Unit of measure |
|--------------|--|-----------------|
| 301-000-000  | McGrath® MAC videolaryngoscope                 | 1 UN            |
| 350-072-000  | MAC1 (size 1 disposable blades)                | 50 PCS/PACKET   |
| 350-017-000  | MAC2 (size 2 disposable blades)                | 50 PCS/PACKET   |
| 350-005-000  | MAC3 (size 3 disposable blades)                | 50 PCS/PACKET   |
| 350-013-000  | MAC4 (size 4 disposable blades)                | 50 PCS/PACKET   |
| X3-003-000   | X3 (hyper-angulated disposable blades, size 3) | 10 PCS/PACKET   |
| 340-000-000  | 250-minute battery                             | 1 UN            |
| 300-000-100  | McGRATH® MAC carrying case                     | 1 UN            |



301-000-000





# Vital Sync™ virtual patient monitoring platform & informatics manager

VitalSync<sup>™</sup> enables continuous remote monitoring and connectivity to the Electronic Patient Record (EPR). It allows clinicians to remotely visualize respiratory and ventilatory parameters, as well as curves and trend data

### • Compatible equipment types:

Ventilators, capnographs, pulse oximeters, depth of consciousness monitors and regional oximetry, PB980 ventilators

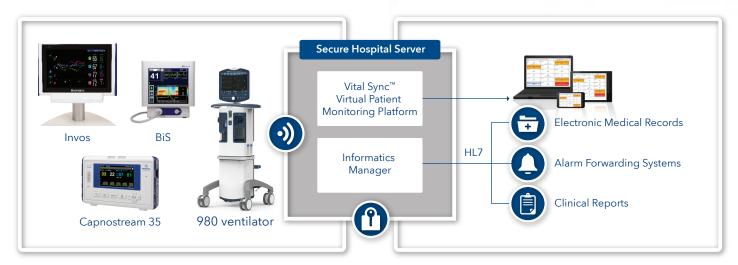
### • Connection to multiple devices via the wi-fi network:

Smartphones, tablets or any device connected to the hospital network

Patient data and alarm thresholds associated with physiological parameters are transmitted wirelessly via HL7 protocol to the electronic patient record (EPR). VitalSync software is hosted on the hospital's own server, and data can be viewed on any device connected to the hospital's secure network.



# Features and specifications



| Features         | Description                                |
|------------------|--|
| Ventilator       | Puritan Bennett™ 980 ventilator            |
| D :              | BIS™ Advance Monitor                       |
| Brain monitoring | INVOS™ Regional Saturation Patient Monitor |
| Capnographs      | Capnography and Pulse Oximetry monitor     |

# INVOS™ cerebral/somatic oximeter 7100°

### Features and specifications



### **Technical specifications**

|  | ıitc |  |
|--|------|--|
|  |      |  |

| Dimensions   | 20 x 30.75 x 5.1 cm (7.87 x 2.1 x 2 in.) |
|--------------|--|
| Weight       | 1270 g (2.8 lb)                          |
| Power supply | Electric or by lithium-ion battery       |
| Screen size  | 25.7 cm (10.1 in.)                       |
| Ports        | USB, VGA, LAN, RS-232                    |

### Preamplifier

| Dimensions | 12.8 x 8.7 x 2.8 cm (5.04 x 3.43 x 1.1 in.) |
|------------|---|
| Weight     | 294 g (0.65 lb)                             |

### Warranty

Twelve months against manufacturing defects under normal conditions of use

| Product<br>code            | Description   | Unit of measure |
|----------------------------|---|-----------------|
| PM7100                     | INVOS PM7100 Tablet                                 | 1 UN            |
| PMPAMP71                   | Preamplifier  | 1 UN            |
| PMAC71DOC                  | Docking station                                     | 1 UN            |
| PMAC71RSC                  | Reusable sensor cable                               | 1 UN            |
| PMAC71STAND                | Support M7100                                       | 1 UN            |
| PT00059589                 | Power cord  | 1 UN            |
| PMSENS71-A-20 <sup>†</sup> | Adult sensor  | 20 UN/package   |
| PMSENS71-P-10 <sup>†</sup> | Paediatric sensor                                   | 10 UN/package   |
| CNN/SNN                    | Cerebral/Somatic sensor for neonate <sup>1</sup>    | 10 UN/package   |
| PMAC71RIC                  | Infant adapter for reusable sensor cable for PM7100 | 1 UN            |
| PMAC71PS‡                  | Power supply  | 1 UN            |

| Service<br>warranty | Description                           | Total warranty<br>period <sup>§</sup> |
|---------------------|---------------------------------------|---------------------------------------|
| SRVY1-INVOS         | Additional one-year service agreement | 2 YEARS                               |
| SRVY2-INVOS         | Additional 2-year service agreement   | 3 YEARS                               |
| SRVY3-INVOS         | Additional 3-year service agreement   | 4 YEARS                               |
| SRVY4-INVOS         | Additional 4-year service agreement   | 5 YEARS                               |



# INVOS™ module for GE physiological monitor

The module enables simultaneous measurement of cerebral and regional saturation on 4 independent channels. Current value, base value, area under the curve, tabular and graphical trends are availa



| Product code | Description  |
|--------------|--|
| PMC71V-GE    | INVOS CARESCAPE rSO <sub>2</sub> - INVOS Parameter |

PMB4000-CE §Includes standard one-year manufacturer's warranty. ◊Licensed as INVOS PM7100 Patient Monitoring System. ¶Licensed as INVOS Infant Regional Saturation Sensor.

# $\mathsf{BIS}^\mathsf{TM}$ - Consience level monitoring system and spectral density analysis

# Features and specifications



PMB4000-CE





186-0224-AMS



PMB4000DOC

### Monitor and docking station

| s |
|---|
| ı |

| Monitor      | 27.6 cm (W) x 20.1 cm (H) x 4.6 cm (D) |
|--------------|--|
| Home station | 28.4 cm (W) x 23.8 cm (H) x 7.3 cm (D) |

### Unit weight

| Monitor      | 1.2 kg (2.6 lb) (1212 g) |
|--------------|--------------------------|
| Home station | 0.7 kg (1.5 lb) (743 g)  |

### **Power supply**

| 2 2 2 1 P. P. A                  |                                  |
|----------------------------------|----------------------------------|
| Input power                      | 100-240 VAC, ±10% 50-60 Hz, 1.5A |
| Output voltage and power         | 19V DC, 3,15A ~ 4.73A            |
| Maximum power consumption system | Up to 25W                        |
| System power supply              | 60W                              |

### **Battery specifications**

Battery type 2S1P -Lithium polymer

### Display

| Screen dimensions   | 10.1" IPS display with LED backlighting  |
|---------------------|--|
| Active display area | 216.81 (horizontal) 135.50 (vertical) mm |

### BISx module

| DISX module  |  |
|--------------|--|
| Weight       | 0.284 kg (10.0 oz)   |
| Dimensions   | 9.5 cm diameter x 6.3 cm thick (3.75" diameter x 2.5" thick)   |
| Cable length | 2.7 m (9 ft) BISx cable<br>1.4 m (4.5 ft) BISx cable to sensor |

### Warranty

Twelve months against manufacturing defects under normal conditions of use

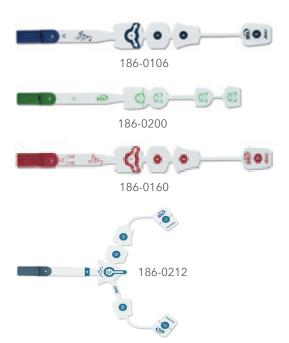
| Kit code       | Description                         |
|----------------|-------------------------------------|
| BISADVANCEKIT1 | BIS Advance, starter kit with BISX4 |
| Contains:      |                                     |

| Product code | Description                             | Unit of measure |
|--------------|---|-----------------|
| PMB4000-CE   | BIS Advance, monitor - CE               | 1 un/kit        |
| PMB4000ACBL  | BIS Advance, monitor, LOC adapter cable | 1 un/kit        |
| 186-0224-AMS | 186-0224-AMS ASPECT BIS X4 CM X1        | 1 un/kit        |
| PMB4000DOC   | BIS Advance, home station               | 1 un/kit        |
| PT00059589   | Power cord USA PT00059589 PM7100        | 1 un/kit        |

| Kit code       | Description                                   |
|----------------|---|
| BISADVANCEKIT2 | BIS Advance, starter kit <b>without</b> BISX4 |
| Contains:      |   |

| Product code | Description                             | Unit of measure |
|--------------|---|-----------------|
| PMB4000-CE   | BIS Advance, CE monitor                 | 1 un/kit        |
| PMB4000ACBL  | BIS Advance, monitor, LOC adapter cable | 1 un/kit        |
| PMB4000DOC   | BIS Advance, home station               | 1 un/kit        |
| PT00059589   | Power cord USA PT00059589 PM7100        | 1 un/kit        |

# **BIS™** sensors



| Product code | Description            | Unit of measure |
|--------------|------------------------|-----------------|
| 186-0106     | Adult quatro sensor    | 25 one/box      |
| 186-0200     | BIS pediatric sensor   | 25 one/box      |
| 186-0160     | BIS extend sensor      | 25 one/box      |
| 186-0212     | Adult bilateral sensor | 10 one/box      |

# BIS™ software 3.50 with density spectral array

The BIS™ monitoring system and the new 3.50 software allow anesthetics to be dosed according to the needs of each patient. This tool facilitates postoperative recovery by minimizing the risk of delirium and cognitive decline, and helps avoid periods of intraoperative memorization.<sup>2-5</sup>



- 2 EEG chart
- 3 Signal quality
- 4 Electromyogram (EMG)
- 5 BIS index

- 7 Deletion time (ST)
- 8 Median frequency (MF)
- 9 Spectral edge frequency (SEF)

| Notes |  |
|-------|--|
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |
|       |  |

## References

- 1.The specifications given for adults and newborns are for Nellcor™ MAX-A and MAX-N sensors with OxiMax™ technology. Saturation accuracy varies by sensor type. See Nellcor's sensor accuracy chart for more details.
- 2. Rudolph J, Marcantonio E. Postoperative delirium: Acute change with long-term implications. Anesth Anal. 2011;112(5),1202-1211.
- 3. Wong J, Song D, Blanshard H, et al. Titration of isoflurane using BIS index improves early recovery of elderly patients undergoing orthopedic surgeries. Can J Anaesth. 2002;49(1):13-18.
- 4. Sebel PS, Bowdle TA, Ghoneim MM, et al. The incidence of awareness during anesthesia: a multicenter United States study. Anesth Analg. 2004;99(3):833-839.
- 5. Luginbuhl M, Wuthrich S, Petersen-Felix S, Binden A, Schnider T. Different benefit of BiSpectal index (BIS™) in desflurane and propofol anesthesia. Acta Anaesthesiol Scand. 2003;47(2):165-173.

Microstream, FilterLine, CapnoLine and Capnostream are registered trademarks and NIV Line, Smart CapnoLine Guardian and VitaLine are trademarks of Oridion Medical 1987 Ltd.

These products are protected by one or more of the following U.S. patents: 6,422,240; 5,857,461; 6,437,316; 6,926,005; 5,657,750; 7,383,839; 7,500,483; and their foreign equivalents.

Specifications are subject to change without notice. Other patent applications in progress. All claims made herein are based on clinical trials.

For a list of indications, contraindications, precautions, warnings and potential adverse events, please consult the instructions for use.



# **Medtronic**

99 Hereford Street Brampton, Ontario, L6Y 0R3 Toll-free: 800.268.5346 Tel: 905.460.3800