Philips Interventional Hemodynamic system with IntelliVue X3

Technical specifications
Introduction

Improving productivity and patient outcome is vital for healthcare facilities to meet the growing demand for cath lab procedures. To further simplify cath lab workflow, Philips introduces the Interventional Hemodynamic system (Hemo system).

Hemo system brings advanced hemodynamic measurements into the interventional lab to support clinical decision making. This system is integrated with the market leading Philips IntelliVue X3 patient monitor mounted at the table side and a hemo workstation in the control room to perform hemodynamic analysis. Furthermore the system can be operated from the table side in the exam room via the Philips Azurion Touch screen module.

Key advantages of the Hemo system

- Control of Philips Hemo on Touch Screen Module
- Integrated iFR Spot and Scout pullback
- Confidently used by all staff members with minimal training

Content

- Key advantages of the Hemo system
- Technical specification of the patient monitor IntelliVue X3 extension and Dock
- Patient cables, sensors and accessories
- Workstation specification
### Technical specifications of the patient monitor IntelliVue X3, measurement extensions and Dock

This section describes IntelliVue X3 patient monitor, extension and Dock as a signal acquisition device that provides input to the Hemo system during interventional procedures where all interaction is managed by the Hemo workstation (with Xper Information Management System software and Hemodynamic Application). The IntelliVue X3, extension, Dock with the mounting bracket allow for flexible positioning at the table side.

#### IntelliVue X3, extension and Dock:

- **Weight:** 2.6 kg
- **Size:** 120 x 180 x 190 mm

The device front panel has patient cable/accessory connectors for invasive blood pressure, ECG, cardiac output, surface temperature, SpO2, etCO2, and non-invasive blood pressure.

#### IntelliVue X3

1. Temperature
2. Pressure connector for 2 pressures
3. SpO2 (option from Philips FAST, Masimo or Nellcor)
4. ECG
5. Noninvasive blood pressure

#### Extension

1. EtCO2 (optional Mainstream/Sidestream or Microstream connector)
2. Cardiac Output Thermodilution
3. Temperature
4. Pressure connector for 2 pressures
5. Connection to IntelliVue X3

#### IntelliVue Dock

1. MSL connector for monitor connection
2. Flexible Sync Output connector, to provide signal to other medical devices
3. AC power connector
4. LAN connector for connection to Hemo workstation

The IntelliVue Dock provides an external power supply for the monitor and extension when connected to mains power via AC power connector. IntelliVue Dock has Flexible Sync Output connector to output and synchronize signals to other medical devices.

- 1/4 stereo jack: 2 channels (tip and ring)
- 2 programmable analogue outputs:
  - Analog ECG output (configurable at tip or ring): 2V/mV (default), 4V/mV, 1V/mV, 0.5V/mV, 0.25V/mV selectable)
  - Analog pressure output (configurable at tip or ring): 1V/100 mmHg, voltage swing ±4V
- Digital ECG pulse output (configurable at ring)

Possibility to split the signal if you want to use ECG lead I/II for different devices as the input. On X3 you can choose between QRS, primary lead or one of the pressure channels. Signals can be split if necessary.

#### Care and Cleaning

The X3 measurement extensions and Dock deploy chemically-resistant surface materials, designed to resist deterioration from cleaning and disinfection agents. Even against very aggressive disinfectants, the X3’s the housing materials have been tested, and found to resist deterioration about 60 times longer than the housing material used for preceding products. See the list of tested agents in the monitor’s Instructions for Use.

#### General – IntelliVue X3, extension and Dock

**Power Consumption:** < 20W when on IntelliVue Dock

**Operating Voltage:** 36 to 60 V dc floating

**Operating Temperature Range:** 0 to 35°C (32 to 95°F) when charging the battery

**Operating Relative Humidity Range:** 15% to 95% humidity, non-condensing

**Ingress Protection:** IntelliVue X3, extension and Dock IP32 when mounted horizontally

Definition of IP 32: Protected against ingress of water when the water is dripping vertically and monitor is tilted up to 15°, and ingress of solid foreign objects 2.5 mm in diameter or larger

**Internal Battery (453564526811)**

The battery is required for the operation of the monitor. The battery lifetime is 3 years from manufacturing date or 500 charge/discharge cycles.
Fits your clinical workflow
Choose the set-up that works best with your lab

**Basic**
Basic monitoring and hemodynamic analysis capabilities for main stream Interventional Cardiac procedures

**Clinical and workflow functionaliy:**
- Non-invasive blood pressure
- Body surface temperature
- 12 lead ECG
- 2 invasive blood pressures
- Calculated Cardiac Output Fick
- Respiration rate
- SpO2 Philips FAST, Nellcor (Covidien) or Masimo
- Capture and store hemodynamic waveforms and ECG’s
- Full disclosure (record and store all waveforms data for post case review and analysis)
- End case report (hemodynamic measurements and calculations)
- Print waveforms and hemodynamic analysis
- Store patient data
- Visualization of ST values
- Aortic Regurgitation (AR) Index

**Clinical Options:**
- Integrated Philips iFR/FFR
- Integrated FFR (compatible with Abbott)

**Work Flow Options:**
- Ability to operate in patient area
- Trolley

**Integrated with Philips image guided therapy system**
- Hemo control from Touch Screen Module
- Patient demographics
- Connected to FlexVision or Monitor Ceiling Suspension

**Performance**
Comprehensive monitoring and hemodynamic analysis capabilities for wide range of Interventional Cardiac procedures

**Clinical and workflow functionaliy:**
- Non-invasive blood pressure
- Body surface temperature
- 12 lead ECG
- 4 invasive blood pressures
- Thermodilusion Cardiac Output (and calculated Fick)
- Respiration rate
- SpO2 Philips FAST, Nellcor (Covidien) or Masimo
- Capture and store hemodynamic waveforms and ECG’s
- Full disclosure (record and store all waveforms data for post case review and analysis)
- End case report (hemodynamic measurements and calculations)
- Print waveforms and hemodynamic analysis
- Store patient data
- Visualization of ST values
- Aortic Regurgitation (AR) Index

**Clinical Options:**
- EtCO2
- Respironics LowFlo CO2
- Covidien Microstream® CO2
- Integrated Philips iFR/FFR
- Integrated FFR (compatible with Abbott)

**Work Flow Options:**
- Ability to operate in patient area
- Trolley

**Integrated with Philips image guided therapy system**
- Hemo control from Touch Screen Module
- Patient demographics
- Connected to FlexVision or Monitor Ceiling Suspension
### ECG Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HR</strong></td>
<td>Range: 15–300 bpm maximum delay: 10 seconds according to IEC 60601-2-27</td>
</tr>
<tr>
<td><strong>ST Numeric</strong></td>
<td>Range: -20–20 mm Accuracy: ±0.5 mm or 15% whichever is greater</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>0.1 mm</td>
</tr>
<tr>
<td><strong>QT-HR Numeric</strong></td>
<td>Range - Adult: 15–150 bpm Range - Pedi/neo: 15–180 bpm Resolution: 1 bpm</td>
</tr>
<tr>
<td><strong>Sinus and SV Rhythm Ranges</strong></td>
<td>Brady • Adult: 15–59 bpm • Pedi: 15–79 bpm • Neo: 15–89 bpm Normal • Adult: 60–100 bpm • Pedi: 80–160 bpm • Neo: 90–180 bpm Tachy • Adult: &gt;100 bpm • Pedi: &gt;160 bpm • Neo: &gt;180 bpm</td>
</tr>
<tr>
<td><strong>Bandwidth</strong></td>
<td>Diagnostic mode: Adult/neo/pedi: 0.05–150 Hz Monitoring mode: • Adult: 0.5–40 Hz • Neo/pedi: 0.5–55 Hz Notch filter: 50/60 Hz</td>
</tr>
<tr>
<td><strong>Differential Input Impedance</strong></td>
<td>• &gt;2 MΩ RA/LL leads (Resp) • &gt;5 MΩ at all other leads (at 10 Hz including patient cable)</td>
</tr>
<tr>
<td><strong>Common Mode Rejection Ratio</strong></td>
<td>• Diagnostic Mode: &gt;86 dB (with a 51 kΩ/47 nF imbalance) • Filter Mode: &gt;96 dB (with a 51 kΩ/47 nF imbalance)</td>
</tr>
<tr>
<td><strong>Electrode Offset Potential Tolerance</strong></td>
<td>±500 mV</td>
</tr>
<tr>
<td><strong>Auxiliary Current (Leads off Detection)</strong></td>
<td>Active Electrode: &lt;100 nA Reference Electrode: &lt;900 nA</td>
</tr>
<tr>
<td><strong>Input Signal Range</strong></td>
<td>±5 mV</td>
</tr>
</tbody>
</table>

### Respiration

#### Respiration Performance Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiration Rate</strong></td>
<td>Range: • Adult/pedi: 0–120 rpm • Neo: 0–170 rpm Accuracy: • At 0–120 rpm ±1 rpm • At 120–170 rpm ±2 rpm Resolution: 1 rpm Bandwidth: 0.3–2.5 Hz (-6 dB) Noise: &lt;25 mV (rms) referred to the input</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td>Range: • Adult/pedi: 10–100 rpm • Neo: 30–150 rpm Adjustment: • &lt;20 rpm: 1 rpm steps • ≥20 rpm: 5 rpm steps Delay: • For limits from 0 to 20 rpm: maximum 4 seconds • For limits above 20 rpm: maximum 14 seconds</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Range: • Adult/pedi: 0–95 rpm • Neo: 0–145 rpm Adjustment: 5 second steps</td>
</tr>
<tr>
<td><strong>Apnea Alarm</strong></td>
<td>Range: 10–40 seconds Adjustment: 5 second steps</td>
</tr>
</tbody>
</table>

#### Respiration Alarm Specifications

<table>
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<th>Parameter</th>
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<td><strong>High</strong></td>
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<tr>
<td><strong>Low</strong></td>
<td>Range: • Adult/pedi: 0–95 rpm • Neo: 0–145 rpm Adjustment: 5 second steps</td>
</tr>
<tr>
<td><strong>Apnea Alarm</strong></td>
<td>Range: 10–40 seconds Adjustment: 5 second steps</td>
</tr>
</tbody>
</table>

### Measurement Specifications - ECG

IEC 60601-2-27:2011
### Noninvasive Blood Pressure (NBP)

**NBP Performance Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Adult</th>
<th>Pediatric</th>
<th>Neonatal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Systolic Range</strong></td>
<td>30–270 mmHg (4–36 kPa)</td>
<td>30–180 mmHg (4–24 kPa)</td>
<td>30–130 mmHg (4–17 kPa)</td>
</tr>
<tr>
<td><strong>Diastolic Range</strong></td>
<td>10–245 mmHg (1.5–32 kPa)</td>
<td>10–150 mmHg (1.5–20 kPa)</td>
<td>10–100 mmHg (1.5–13 kPa)</td>
</tr>
<tr>
<td><strong>Mean Range</strong></td>
<td>20–255 mmHg (2.5–34 kPa)</td>
<td>20–160 mmHg (2.5–21 kPa)</td>
<td>20–120 mmHg (2.5–16 kPa)</td>
</tr>
</tbody>
</table>

**Accuracy**

- Max. Std. Deviation: 8 mmHg (1.1 kPa)
- Max. Mean Error: ±5 mmHg (±0.7 kPa)

**Measurement Time**

- Typical: auto/manual: 30 seconds, stat: 15 seconds
- Maximum: adult/pediatric: 180 seconds, neonatal: 90 seconds

**Cuff Inflation Time**

- Typical for normal adult cuff: <10 seconds
- Typical for neonatal cuff: <2 seconds

**Initial Cuff Inflation Pressure**

- Adult: 165 ±15 mmHg
- Pediatric: 130 ±15 mmHg
- Neonatal: 100 ±15 mmHg

**Maximum Cuff Pressure**

- Adult/pediatric: 300 mmHg
- Neonatal: 150 mmHg

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### Invasive Blood Pressure

**Invasive Blood Pressure Performance Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>±0.05–360 mmHg</td>
</tr>
<tr>
<td>Input Sensitivity</td>
<td>5 µV/mmHg (57.5 µV/kPa)</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>±10%</td>
</tr>
<tr>
<td>Adjustment range</td>
<td>±10%</td>
</tr>
<tr>
<td>Transducer (Compliant w/ ANSI/AAMI BP22)</td>
<td>200–2000 Ω (resistive)</td>
</tr>
<tr>
<td>Load impedance</td>
<td>&gt;2000 Ω (resistive)</td>
</tr>
<tr>
<td>Output impedance</td>
<td>&gt;3000 Ω (resistive)</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>DC to 12 Hz or 40 Hz</td>
</tr>
<tr>
<td>Zero Adjustment</td>
<td>±200 mmHg (±26 kPa)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±1 mmHg (±0.1 kPa)</td>
</tr>
<tr>
<td>Drift</td>
<td>&lt;±0.1 mmHg/°C (±0.013 kPa/°C)</td>
</tr>
<tr>
<td>Gain Accuracy</td>
<td>±1%</td>
</tr>
<tr>
<td>Drift</td>
<td>&lt;±0.05°C</td>
</tr>
<tr>
<td>Non-linearity and Hysteresis Error of ±0.4% FS (@CAL 200 mmHg)</td>
<td></td>
</tr>
</tbody>
</table>

**Overall Accuracy (Including Transducer)**

- ±4% of reading or ±4 mmHg (±0.5 kPa)

**Temperature Performance Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement</td>
<td>±1–45°C (±1.8°F)</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.1°C (0.2°F)</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.1°C (±0.2°F)</td>
</tr>
<tr>
<td>Average Time</td>
<td>&lt;10 seconds</td>
</tr>
</tbody>
</table>

**Temperature Alarm Specifications**

- High/Low Alarms:
  - ±1–30°C (±50°F), 0.5°C (1°F) steps
  - 30–45°C (86–113°F), 0.1°C (0.2°F) steps

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### Temperature

**Temperature Performance Specifications**

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**Temperature Alarm Specifications**

- High/Low Alarms:
  - ±1–30°C (±50°F), 0.5°C (1°F) steps
  - 30–45°C (86–113°F), 0.1°C (0.2°F) steps

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**We suggest to order Edwards TrueWare PX series Single adult transducer and the pressure cable from the front end to the transducer.**
Cardiac Output
Thermodilution
Specifications

Cardiac Output
Blood Temperature Range 17–43°C (62.6–109.5°F)
Blood Temperature Accuracy (Excluding Probe) 0.1°C (0.2°F)
Injectate Temperature Range -1–30°C (30.2–86.0°F)
Injectate Temperature Accuracy (Excluding Probe) 0.1°C (0.2°F)

Cardiac Output (Right Heart)
C.O. Range 0.1–20 l/min
Instrument Specification (Measured Electronically)
C.O. Accuracy ±3% or 0.1 l/min
C.O. Repeatability ±2% or 0.1 l/min

Mainstream CO₂ Performance Specifications

<table>
<thead>
<tr>
<th>CO₂</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
</table>
| CO₂ | 0–150 mmHg (0–20 kPa) | After two minutes warm-up:
| | | • For values between 0 and 40 mmHg (0 and 5.3 kPa): ±0.8 mmHg (±0.3 kPa) ±8% of reading
| | | • For values from 41–70 mmHg (5.4–9.3 kPa): ±5% of reading
| | | • For values from 71–100 mmHg (9.4–13.3 kPa): ±8% of reading
| | | • For values from 101–150 mmHg (13.4–20 kPa): ±10% of reading
| | | The specifications are valid for standard gas mixtures, balance air, fully hydrated at 35°C, Pabs = 760 mmHg (101.3 kPa), flow rate = 50 ml/minute
| | | Resolution: Numeric: 1 mmHg (0.1 kPa) Wave: 0.1 mmHg (0.01 kPa)
| | | Stability:
| | | Short-term Drift ±0.8 mmHg (±0.1 kPa) over four hours
| | | Long-term Drift Accuracy specification is maintained over a 120-hour period
| | | Warm-up Time Two minutes with CO₂ transducer attached for full accuracy specification
| | | Response Time <60 ms (with adult or infant reusable or disposable adapter)

End tidal CO₂ (867040)
Complies with:
• ISO 80601-2-55:2011
• EN ISO 80601-2-55:2011

End tidal CO₂ (867041)

Microstream CO₂ (867041)

Performance Specifications

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂</td>
<td>0–150 mmHg (0–20.0 kPa) or 20% CO₂ whichever is lower</td>
<td></td>
</tr>
</tbody>
</table>
| CO₂ | These specifications are valid for:
| | • 21% O₂ and balance N₂
| | • Up to 35°C ambient temperature
| | • Up to 60 rpm for adults and 100 rpm for neonates
| | • Values between 0 and 40 mmHg (0 and 5.3 kPa): ±2.2 mmHg (±0.3 kPa)
| | • Values above 40 mmHg (5.3 kPa): ± (5% + 0.08% per mmHg above 40 mmHg) of reading
| Resolution | Numeric: 1 mmHg (0.1 kPa) Wave: 0.1 mmHg (0.02 kPa)
| Warm-up Time | Up to 5 minutes, with an accuracy of ±4 mmHg or ±12% of reading, whichever is greater
| Sample Flow Rate | 50 ±15 ml/min - 7.5 ml/min
| Rise Time | <140 ms for neonatal patients (measured with M1923A FilterLine H Set Infant/Neonatal)
| | 240 ms for adult patients (measured with M1921A FilterLine H Set Adult/Pediatric)

Gas Sampling Delay Time
Sampling delay time from an input step change at the airway adapter until the measured signal changes by 10% of the input step.

| Sample Lines | Maximum 3 seconds |
| Sample Lines | Maximum 6 seconds |
| Total System | Sum of Gas Sampling Delay Time and Rise Time
| Endtidal CO₂ (et CO₂) Alarm Limits |
| Range | ETCO₂ high: 20–95 mmHg (2–13 kPa)
| Adjustment | 1 mmHg (0.1 kPa) steps
| Delay | <44 seconds
| ETCO₂ Low | 10–90 mmHg (1–12 kPa)
| Adjustment | 1 mmHg (0.1 kPa) steps
| Delay | <44 seconds

CO₂ Alarm Delay <14 seconds (excluding Total System Response Time)
Philips FAST SpO₂ (867030 SP1)
Complies with:
• ISO 80601-2-61:2011
• EN ISO 80601-2-61:2011

Nellcor OxiMax SpO₂ (867030 SP6)
Complies with:
• ISO 80601-2-61:2011
• EN ISO 80601-2-61:2011

Masimo rainbow SET SpO₂ (867030 SP5)
Complies with:
• ISO 80601-2-61:2011
• EN ISO 80601-2-61:2011

**Philips FAST SpO₂ Performance Specifications**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Range and Resolution</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpO₂</td>
<td>0–100%</td>
<td>1%</td>
</tr>
<tr>
<td>Perf</td>
<td>0.02–30.0</td>
<td>0.01 for small values</td>
</tr>
<tr>
<td>Pulse</td>
<td>30–300 bpm</td>
<td>1 bpm</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±2% or 1 bpm, whichever is greater</td>
<td></td>
</tr>
</tbody>
</table>

**Phlips FAST SpO₂, Performance Specifications**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Range and Resolution</th>
<th>Resolution</th>
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<tr>
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<tr>
<td>Perf</td>
<td>0.02–30.0</td>
<td>0.01 for small values</td>
</tr>
<tr>
<td>Pulse</td>
<td>30–300 bpm</td>
<td>1 bpm</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±2% or 1 bpm, whichever is greater</td>
<td></td>
</tr>
</tbody>
</table>

**Pulse Oximetry Performance Specifications**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Range and Resolution</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpO₂</td>
<td>1–100%</td>
<td>1%</td>
</tr>
<tr>
<td>Resolution</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td>For information about accuracy see Philips 867030 Technical Data Sheet</td>
<td></td>
</tr>
<tr>
<td>Low perfusion accuracy*</td>
<td>2% (70–100%)</td>
<td></td>
</tr>
<tr>
<td>Pulse</td>
<td>25–300 bpm</td>
<td>1 bpm</td>
</tr>
<tr>
<td>Resolution</td>
<td>±3 bpm (20–250 bpm)</td>
<td></td>
</tr>
</tbody>
</table>

*Specification applies to the performance of the device. Reading accuracy in the presence of low perfusion (detected IR pulse modulation amplitude 0.03–1.5%) was validated using signals supplied by a patient simulator. SpO₂ and pulse rate values were varied across the monitoring range over a range of weak signal conditions and compared to the known true saturation and pulse rate of the input signals.

**Measurement Range and Resolution**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>SpO₂</td>
<td>0–100%</td>
<td>1%</td>
</tr>
<tr>
<td>Pulse</td>
<td>25–240 bpm</td>
<td>1 bpm</td>
</tr>
</tbody>
</table>

For more information on Philips IntelliVue X3 (867030), measurement extensions (867039, 867040, 867041), and Dock (867043), refer to the separate technical data sheets.
### Respironics eCO2 CapnoStat 5 Mainstream intubated
- **Respironics Mainstream CO2 sensor**: M2501A
- **Airway Adapter Adult/Pediatric Reusable Use with ET tube > 4mm**: M2513A
- **Airway Adapter Infant Reusable Use with ET tube < 4mm Deadspace < 1cc**: M256A
- **Single patient use adult airway adapter**: M2533A
- **Single patient use infant airway adapter**: M2536A
- **Gas cylinder regulator**: M2505A
- **GAS Verification gas**: M2506A

### Respironics Lo-Flo eCO2 Sidestream non-intubated
- **Sidestream CO2 sensor**: M2741A
- **CO2 nasal cannula - adult**: M2744A
- **CO2 nasal cannula - pediatric**: M2745A
- **CO2 nasal cannula - infant**: M2746A
- **CO2/O2 nasal cannula - adult**: M2757A
- **CO2/O2 nasal cannula - pediatric**: M2758A
- **CO2 oral-nasal cannula - adult**: M2760A
- **CO2/O2 oral-nasal cannula - pediatric**: M2761A
- **CO2 oral-nasal cannula - pediatric**: M2762A
- **Airway Adapter Set - ET > 4.0 mm**: M2768A
- **Airway Adapter Set H - ET > 4.0 mm**: M2772A
- **Airway Adapter Set H - ET > 4.0 mm**: M2773A
- **Airway Adapter Set ET > 4.0 mm**: M2777A
- **ECO2/O2 Nasal Cannula - Infant/Neonate**: 989803144471
- **VitaLine™ H Set, Adult/Pediatric**: 989803159571
- **VitaLine™ H Set, Infant/Neonatal**: 989803159581
- **Smart CapnoLine® O2 Pediatric**: M2522A
- **Smart CapnoLine® O2 Adult/Intermediate**: M2520A
- **Smart CapnoLine® Pediatric**: M2524A

### Patient cables, sensors and Accessories for Philips Hemo system

<table>
<thead>
<tr>
<th>Category</th>
<th>Name</th>
<th>Philips ID old P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECG</td>
<td>CBL 5+10 lead ECG trunk cable, AAMI/IEC, 2.7m</td>
<td>M1949A</td>
</tr>
<tr>
<td></td>
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**Workstation specification**

**Control room workstation:**
- 8 GB RAM
- Intel Core i5 8500 6C CPU
- HDD 500GB
- NVIDIA Quadro P400 2GB

**Exam room workstation:**
- 4 GB RAM
- Intel Core i5-6300U
- HDD 500GB

**Displays:**
- Control room display: 1920x1200 24" or 1920x1080 24"
- Exam Room displays 1280x1024 19" or 1920x1080 27"

**Size of displayed ECG waves:**
To ensure that the size of ECG waves on the attached displays are within 10% of the size indicated by the Philips Hemodynamic Application, the pixel density of the display should be 89 +/- 10% dpi (i.e. the dot size should be 0.285 +/- 10% mm).

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**CO₂ Microstream intubated and non-intubated**

- Smart CapnoLine® Adult/Intermediate
- Smart CapnoLine® O₂ Pediatric Long
- Smart CapnoLine® O₂ Plus Adult Long
- Smart CapnoLine® Plus Adult Long
- CapnoLine® H O₂ Adult
- CapnoLine® H O₂ Pediatric
- NIV Adult
- NIV Pediatric
- CapnoLine® H Adult
- CapnoLine® H Infant/Neonatal
- Smart CapnoLine® H O₂ Adult
- Smart CapnoLine® H O₂ Adult Long
- Smart CapnoLine® H O₂ Pediatric Long
- CapnoLine® H O₂ Infant/Neonatal
- CapnoLine® H Infant/Neonatal Long
- Nasal FilterLine® Infant/Neonatal
- Smart CapnoLine® Guard
- Smart CapnoLine® Guard O₂
- Smart CapnoLine® Guard O₂ Long
- Hook and Loop Strap
- Nasal FilterLine® O₂ Adult
- Nasal FilterLine® O₂ Adult Long
- Nasal FilterLine® O₂ Pediatric
- Calibration Regulator
- TRADE COMPLIANT: FILTERLINE, ADULT/PED
- TRADE COMPLIANT: FILTERLINE H, ADULT/PED
- TRADE COMPLIANT: FILTERLINE H, INFANT/NEO
- TRADE COMPLIANT: SMART CAPNOLINE H SET, ADULT/PED
- TRADE COMPLIANT: SMART CAPNOLINE O₂ PED
- TRADE COMPLIANT: SMART CAPNOLINE O₂, ADULT
- TRADE COMPLIANT: SMART CAPNOLINE O₂, ADULT4M
- TRADE COMPLIANT: SMART CAPNOLINE GUARD O₂
- TRADE COMPLIANT: SMART CAPNOLINEGUARD O₂, ADULT
- TRADE COMPLIANT: SMART CAPNOLINEGUARD O₂, ADULT4M

**Other**

- Patient cable organizer

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For more information about the complete set of supplies and accessories, refer to the separate “Philips IntelliVue Accessories” Technical Data Sheet.