Technical Data

Vismo

PVM-4761/4751/4731
PVM-4763/4753/4733
Bedside Monitor

Fighting Disease with Electronics

NIHON KOHDEN

TD. PVM-4000 Op No. 01K Ver.01-04

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Some products may not be available in your country.

FEATURES

Intended Use

PVM-4000 series bedside monitor is intended for continuous monitoring, recording, and alarming of multiple physiological parameters of adults, pediatrics and neonates in the OR, recovery room, ICU, CCU, HCU, NICU, ER, ward and other areas.

Smart cables and MULTI connectors

Smart cable technology gives you high flexibility in the selection of parameters without traditional modules. When you plug a sensor cable into a MULTI connector, the monitor automatically detects the type of parameter and starts measuring. IBP and CO_2 can be measured with MULTI connector. (PVM-4763/4753/4733 only)

Display

The monitor has a high resolution, wide-viewing angle and 10.4-inch TFT color LCD for easy viewing.

Touch screen operation

The touch screen provides intuitive operation.

Smart guide function

When a technical alarm happens during monitoring, the Guide key appears at the top of the screen. If the Guide key is touched, the guide menu that indicates a possible solution will appear. The guide also shows measurement tips for each parameter.

PI (Pulse-amplitude Index)

The Pulse-amplitude Index indicates the percentage of pulsatile signal in the entire transmitted IR signal. PI supports to assess peripheral perfusion.

(PI is displayed when using Nihon Kohden SpO_2 sensors and Masimo SpO_2 sensors)

SQI bar graph for SpO_2

The SQI (signal quality index) bar graph shows the pulse waveform quality for SpO_2 measurement. (SQI bar graph is available only with Nihon Kohden SpO_2.

iNIBP

iNIBP is Nihon Kohden's unique algorithm to measure NIBP during inflation. It provides fast and painless measurement of NIBP. Even if patient's blood pressure increase compared to previous measurements, iNIBP provides fast measurement of NIBP.

PWTT-triggered NIBP measurement

PWTT (pulse wave transit time) is continuously and non-invasively measured from the ECG and SpO_2. If a sudden, critical circulation change happens between the periodic NIBP measurements, PWTT may detect it and trigger NIBP measurement to confirm it.

esCCO

esCCO (estimated continuous cardiac output) is new technology to determine the cardiac output using Pulse Wave Transit Time (PWTT) and standard monitoring parameters – ECG, SpO2 and NIBP. esCCO provides real-time, continuous and non-invasive cardiac output measurement alongside the familiar vitals sign parameters and it is a very effective cost-saving solution because it has no additional running costs or accessories. (QP-470P is required.)

PPV/SPV

PPV (Pulse Pressure Variability) and SPV (Systolic Pressure Variability) is an indicator of intravascular volume. It is useful in guiding fluid therapy for patients receiving mechanical ventilation. (PVM-4763/4753/4733 only)

Mainstream $EtCO_2$ for both intubated and non-intubated patients

PVM-4763/4753/4733 can use the compact and lightweight cap-ONE mainstream CO_2 sensor kit to obtain smooth and accurate $EtCO_2$ and respiration rate within 5 or 10 seconds.

Unique nasal adapter effectively catches the nasal and oral expired CO2 without dilution for non-intubated patient (Available with TG-920P).

cap-ONE mask provides ETCO2 measurement and oxygen supply for non-intubated patients (Available with TG-980P).

NICU:

Neonate arrhythmia algorithm

PVM-4000 series monitor has software for monitoring neonates. A dedicated neonate arrhythmia recognition algorithm recognizes narrow QRS.

NIBP inflation pressure for neonate

Connection of a neonate NIBP air hose is detected and the inflation pressure range is automatically changed for patient safety.

OCRG

OCRG (oxycardiorespirogram) combines compressed trends of beat-to-beat heart rate, respiration, and oxygenation levels. OCRG can help doctors detect the cause of apnea attack.

Mainstream CO_2 sensors for neonate

Mainstream CO_2 monitoring for neonate is available with a cap-ONE TG-980P CO_2 sensor kit. The airway adapter YG-213T has a dead space of only 0.5 ml.

Non-adhesive SpO_2 probe

The TL-535U (P206) and TL-260T (P205A) Multi-site Y probe are designed so that the adhesive of the attachment tape does not stick to the delicate skin of neonates or low birth weight infants.

Network:

LS-NET (Life Scope Networking)

You can connect Nihon Kohden central monitors and bedside monitors by LS-NET (Life Scope Networking with Ethernet LAN).

Interbed

When Nihon Kohden bedside monitors are connected in an LS-NET network, you can exchange and view data of other bedside monitors. Both individual display and 8 bed display are available.

Connecting to a network printer without a central monitor

You can connect a network printer to a PVM-4000 series bedside monitor on the LS-NET through the LAN port.

You can print real time and review data on A4 papers.

Other Features:

Sleep mode

Sleep mode prevents the monitor from disturbing the patient during sleep or other times. The screen is darkened and the sync sound and alarm indicator are turned off. Sleep mode is available when the PVM-4000 series bedside monitor is connected to the central monitor.

Graphical and tabular trends

Up to 120 hours of graphic and tabular trends of all parameters can be saved and reviewed.

Full disclosure

Up to 120 hours of full disclosure waveforms for 4 parameters can be reviewed.

Data time is synchronized between review windows

When one review window is changed to another review window, the new review window open in the same time as the first review window. For example, to check the waveform information for the time of an alarm file in the Alarm History window, select the corresponding file and change the full disclosure window. The full disclosure waveform for the corresponding time is displayed. This makes it easy to compare various vital sign data for the patient at the selected time between the review windows.

Alarm escalation

The alarm escalation function automatically escalates the alarm priority to a selected level if the alarm continues or SpO_2 drops. Alarm escalation applies to vital alarms (SpO_2 limit and apnea) and technical alarms (ECG and SpO_2). Alarm escalation can contribute to decreased medical accidents and improved quality of care.

Specification

◆ Measuring parameters

PVM-4761/4751/4731
ECG(3/6 lead), respiration (impedance method), SpO_2, NIBP, temperature x 2, esCCO[*1]

PVM-4763/4753/4733
ECG(3/6 lead), respiration (impedance method), SpO_2, NIBP, temperature x 2, CO_2(mainstream), IBP, esCCO[*1],

[*1]: Optional software QP-470P is required.

◆ Display
Display size: 10.4 inch color TFT LCD
Resolution: 800 x 600 dots
Pixel pitch: 0.264 x 0.264
Touch panel operation: available
Waveform display mode: Fixed method
Touch panel operation: available
Sweep speed:
6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s (when displaing ECG, pulse wave or IBP)
1.56 mm/s, 6.25 mm/s, 12.5 mm/s, 25 mm/s (when displaying respiration waveform or CO_2)
Display colors: 12 colors, selectable
Maximum number of waveform traces:
PVM-4763/4753/4733: Up to 6 traces
PVM-4761/4751/4731: Up to 4 traces
Displayed waveforms on home screen:
ECG (up to 2 waveforms), respiration waveform, IBP (up to 2 waveforms), SpO_2 pulse wave, CO_2 partial pressure curve
Numerical data display:
Heart rate, VPC (per-minute value), ST measurement, SpO_2 value, pulse rate, PI, temperature, NIBP (SYS/DIA/MAP), IBP (SYS/DIA/MAP), PPV, SPV, $ETCO_2$, $FiCO_2$, QTc, QRSd, RPP, SI
With QP-470P;
esCCO, esCCI, esSV, esSVI
Synchronization marks: Heart rate sync mark, pulse rate sync mark, respiratory sync mark

◆ Alarm
Alarm items: Upper/lower alarms, arrhythmia alarms, interbed alarms, technical alarms
Alarm levels: Crisis (flashes red), Warning (flashes yellow), Advisory (flashes blue or yellow)
Alarm indication: Message, highlighted numeric value, alarm indicator flashes, alarm sound
Turning alarm off: Silencing alarms, alarm reset, suspend alarms, all alarms off
Alarm escalation: Apnea, SpO_2 lower, technical alarm (check electrodes, cannot analyze, check SpO_2 probe)
Alarm trigger delay:
RR upper/lower: 0 to 30 seconds
HR/PR upper/lower: 0 to 10 seconds
SpO_2: 0 to 30 seconds

Alarm configurable start-up values:
Master Alarm Neonatal, Master Alarm Pediatric, Master Alarm Adult
Number of master setting:
Up to 3 for each of Adult, Pediatric and Neonatal mode.
Alarm limit setting: Displayed for each parameter on the monitoring screen.
Auto setting: Upper/Lower alarm, ST level
Interbed alarm setting: All, Crisis & Warning, Crisis, Off

◆ Power requirement
AC: 100 to 240 V
DC (battery): 6.6 to 8.2 V
Line frequency: 50 or 60 Hz

◆ Battery
Battery pack SB-470P
Type of battery: Lithium ion rechargeable battery
Number of battery: 1
Battery operation time: 6 hours

The above information is a guideline when all the following conditions are fulfilled and ECG is monitored.
- New and fully charged battery pack
- Used at room temperature (around 25 °C)
- Power saving mode on
- No optional components
- No alarm occurs

◆ Interface
Network socket: 1
ZS socket (for ZS-900P): 1
USB socket: 1
Alarm output socket*: 1
Serial communication socket*: 1
RGB output socket*: 1
ECG/BP OUT socket*: 1

*When QI-470P interface is installed

◆ Recording
Recording format: Thermal array recording
Number of traces: Up to 3
Recording width: ≥ 46mm
Recording speed: 12.5, 25, 50 mm/s

◆ Network
Network communication (LS-NET):
Connects to the Nihon Kohden monitor network and communicates with central monitor, other bedside monitors and server.
Network communication (hospital network):
Connects to the hospital network (HL7 output).

◆ Review
Review display time: 120 hours
Trend graph:
  Number of graphs: 2
  Number of parameters in each graph: Up to 3
Vital sign list:
  Number of parameters displayed in each list: Up to 15
  List interval: 1, 5, 10, 15, 30 or 60 min
NIBP list:
  Number of parameters displayed in the NIBP list: Up to 15
Full disclosure:
  Displayed waveform: Up to 4
  Display time for 1 trace: 60, 30, 20, 12 or 5 seconds
  Zoom in window (displays a full disclosure a waveform with 1 trace of 5 seconds, and additional information): Available
Alarm history:
  Number of files on one screen: 9 items
Arrhythmia recall:
  Filters for displayed items: Arrhythmia types
  Individual display mode (Arrhythmia event and the waveform for 5 seconds before and after the arrhythmia event): Available
OCRG review: Available

◆ ECG
Leads:
3-electrode cable: I, II, III
6-electrode cable: I, II, III, aVR, aVL, aVF, 2 from V1 to V6
Number of waveforms: Up to 8 (All Leads page)
Frequency response:
DIAG mode: 0.05 to 150 Hz (−3 dB)
MONITOR mode: 0.3 to 40 Hz (−3 dB)
MAXIMUM mode: 1 to 18 Hz (−3 dB)
Heart rate counting range:
0, 15 to 300 beats/min (±2 beats/min)
Heart rate counting accuracy:
±2 beats/min
Arrhythmia analysis:
Analysis method: Multi-template matching method
Analysis channels: 2 channels
VPC counting rate: 0 to 99 VPCs/min
Arrhythmia alarm items:
25 items (ASYSTOLE, VF, VT, EXT TACHY, EXT BRADY, VPC RUN, V BRADY, SV TACHY, TACHYCARDIA, BRADYCARDIA, PAUSE, COUPLET, EARLY VPC, MULTIFORM, V RHYTHM, BIGEMINY, TRIGEMINY, FREQ VPC, VPC, A-Fib, End A-Fib, IRREGULAR RR, PROLONGED RR, NO PACER PULSER, PACER NON-CAPTURE)
ST level measurement:
Number of measurement channels:
3-electrode: 1 ch
6-electrode: 2 ch
ST level measuring range: ±2.5 mV

QTc/QRSd measurement:
QTc/QRSd lead: All, Trace 1, Selected lead

QTc/QRSd value display on the home screen: Selectable

◆ Respiration (impedance)
Measuring method: Impedance mthod
Number of channels: Selectable from R-F or R-L
Respiration rate counting range: 0 to 150 counts/min
Respiration rate counting accuracy*: ±2 counts/min (0 to 150 counts/min)
* Essential performance in EMC standard
Apnea detection time: Off, 5 to 40 s

◆ Non Invasive Blood Pressure, NIBP
Measuring method: Oscillometric
Measuring range: 0 to 300 mmHg
Accuracy: ±3 mmHg
Measurement accuracy (based on ISO 81060-2)
Standard deviation: ≤±5 mmHg
Difference of determination: ≤ ±8 mmHg
Cuff inflation time:
Adult/childe: ≤ 11 s (700 cc), 0 to 200 mmHg
Neonate: ≤ 5 s (72 cc), 0 to 200 mmHg
Initial pressurization value (default setting):
Adult: 180 mmHg*
Child: 140 mmHg*
Neonate: 100 mmHg*
  *It is settable
Maximum pressurization value:
Adult/Child: 300 mmHg
Neonate: 150 mmHg
Maximum measurement time:
Adult/Child: ≤ 160 s
Neonate: ≤ 80 s
Operation mode: Manual, STAT, periodic, SIM
Measurement mode: Adult/child or neonate is recognized by connected air hose
Air leakage: ≤ 3 mmHg/min
Display items: Systolic (SYS), diastolic (DIA), mean (MAP)
Operation mode: Manual, STAT, periodic, SIM (depends on the site setting)
Other display: Oscillation graph, PR, Cuff pressure (displays cuff pressure during measurement), RPP, SI
Venous puncture mode: Available*
  *target pressure is settable
PWTT triggered NIBP measurement: Available
iNIBP (NIBP measurement in inflation method): Available
RPP: Available
SI:
Old data display: Dim or hide
Time setting until data is recognized as old: 5, 10, 30min, 1, 24 hours

◆ SpO₂
Measuring technology:
Nihon Kohden, Nellcor or Masimo
Alarm item: SpO2, PR
Sync sound tone setting: 81-100, 40-100%

Nihon Kohden SpO₂, PVM-4761/4763

SpO$_2$ measurement:
Display range: 0 to 100% SpO$_2$
Declared range: 70 to 100 % SpO$_2$
Measuring accuracy *[1] (rms[*2]):
±3%SpO$_2$ (70%SpO$_2$ ≤ %SpO$_2$ < 80%SpO$_2$)
±2%SpO$_2$ (80%SpO$_2$ ≤ %SpO$_2$ ≤ 100%SpO$_2$)
Pulse rate measurement:
Display range: 30 to 300 beats/min
Declared range: 30 to 300 beats/min
Counting accuracy*[1] (rms[*2]): ±3 beats/min
PI(Pulse-amplitude Index): available
SQI bar graph: available

Nellcor SpO$_2$, PVM-4751/4753
SpO$_2$ measurement:
Display range: 1 to 100% SpO$_2$
Declared range: 70 to 100 % SpO$_2$
Measuring accuracy *[1] (rms[*2]):
±2%SpO$_2$ (adult)
±3%SpO$_2$ (neonate)
Pulse rate measurement:
Display range: 20 to 300 beats/min
Declared range: 20 to 250 beats/min
Counting accuracy*[1] (rms[*2]): ±3 beats/min

Masimo SpO$_2$, PVM-4731/4733
SpO$_2$ measurement:
Display range: 1 to 100% SpO$_2$
Declared range: 70 to 100 % SpO$_2$
Measuring accuracy[1] (rms[*2]):
No motion:
±2%SpO$_2$ (adult)
±3%SpO$_2$ (neonate)
Motion:
±3%SpO$_2$ (adult)
±3%SpO$_2$ (neonate)
Pulse rate measurement:
Display range: 25 to 240 beats/min
Declared range: 25 to 240 beats/min
Counting accuracy*[1] (rms[*2]):
±3 beats/min (No motion)
±5 beats/min (Motion)
PI (Perfusion Index): available
Signal IQ : available

◆ **Temperature**
Complies with ISO 80601-2-56:2009
Thermistor probe: 400 series (YSI)
Number of channels: Up to 2
Delta TEMP: Available
Measuring range: 0 to 45°C, 32 to 113°F
Measuring accuracy*:
±0.2°C (0°C ≤ TEMP < 25°C)
±0.1°C (25°C ≤ TEMP ≤ 45°C)
* Essential performance in EMC standard
Internal noise: ≤ 0.03°C (at 37°C)
Temperature drift: within ±0.005°C /1°C
Cable damage detection: Detects sensor cable damage
Delta TEMP alarm setting: 0.1 to 45 °C, Off

◆ **Invasive blood pressure, IBP (PVM-4763/4753/4733)**
Complies with IEC 60601-2-34: 2011

Calculation: PPV, SPV
Number of channels: Up to 2
Measuring range: –50 to 300 mmHg
Complied transducer:
P23XL-1, P10EZ-1, Merit Medical Systems DX series disposable transducers
Requirements for other equivalent products:
5 µV/V/mmHg, bridge resistor: 200 Ω to 20 kΩ, defibrillation-proof
Volume displacement: 0.04 mm^3/100 mmHg (P10EZ-1 or P23XL-1)
Measuring range: –50 to 300 mmHg
Zero balancing range: ±200 mmHg
Zero balancing accuracy: ±1 mmHg
Single measuring accuracy:
±1 mmHg ±1 digit (–50 mmHg ≤ IBP < 100 mmHg)
±1% ±1 digit (100 mmHg ≤ IBP ≤ 300 mmHg)
Total measuring accuracy*: ±4% or ±4 mmHg, whichever is greater (When used with ANSI/AAMI BP-22-1994 compliant product)
*Essential performance in EMC standard
Internal noise: within ±1 mmHg
Temperature drift: ±0.1 mmHg/1°C
Frequency response: DC to 12 Hz or 20 Hz (selectable)
Cable damage detection: Available (detects transducer cable damage)
BP sync sound: Systolic value 20 to 120 mmHg, changes in 20 steps every 5 mmHg
Zero calibration mode: Zero, Zero All

◆ **Carbon Dioxide, CO$_2$ (Mainstream method, PVM-4763/4753/4733)**
Calculation method:
TG-900P/TG-920P: semi-quantitative
TG-980P quantitative
CO$_2$ measuring parameter:
TG-900P/TG-920P: ETCO$_2$
TG-980P: ETCO$_2$, CO$_2$(I)
CO$_2$ measuring range:
TG-900P/TG-920P: 0 to 100 mmHg
TG-980P: 0 to 150 mmHg
Warm-up time:
TG-900P/TG-920P: 5 s
TG-980P: 10 s
Total system response time:
TG-900P/GT-920P/TG-980P: ≤ 0.5 seconds
CO$_2$ measuring accuracy:
TG-900P/TG-920P:
±0.4 kPa (0 ≤ CO$_2$ ≤ 1.33 kPa)
  (±3 mmHg (0 ≤ CO$_2$ ≤ 10 mmHg))
±0.53 kPa (1.33 < CO$_2$ ≤ 5.33 kPa)
(±4 mmHg (10 < CO$_2$ ≤ 40 mmHg))
±10% reading
(5.33 < CO$_2$ ≤ 13.3 kPa (40 < CO$_2$ ≤ 100 mmHg))
(At 1 atmospheric pressure, air inspiration, no condensation)
TG-980P:
±0.27 kPa (0 ≤ CO$_2$ ≤ 5.33 kPa)
(±2 mmHg (0 ≤ CO$_2$ ≤ 40 mmHg))
±5% reading
(5.33 < CO$_2$ ≤ 9.33 kPa (40 < CO$_2$ ≤ 70 mmHg))
±7% reading
(9.33 < CO$_2$ ≤ 13.3 kPa (70 < CO$_2$ ≤ 100 mmHg))

(When no condensation)
Warm-up time:
TG-900P/TG-920P: 5 s
TG-980P: 10 s
Total system response time:
TG-900P/GT-920P/TG-980P: ≤ 0.5 seconds
CO_2 value display update cycle: Every 3 s or when alarm is generated

◆ **esCCO (Optional QP-470P is required, PVM-4761/4763 only)**
Measuring method: estimated continuous noninvasive cardiac output derived from pulse wave transit time
Measured parameters: esCCO, esCCI, esSV, esSVI
Measuring range:
esCCO: 0.50 to 20.00 L/min
esCCI: 0.50 to 20.00 L/min/m^2
esSV: 0 to 300 mL
esSVI: 0 to 200 mL/m^2

◆ **ECG/BP Output**
ECG waveform output: Output the ECG on the first trace
BP waveform output: Output the IBP waveform
HT pulse output: Outputs pulse based on the ECG on the first trace
Output impedance:
ECG: ≤100 Ω±20%
BP: ≤100 Ω±
Output-waveform:
ECG: ±5.0 V (at 1 mV/V ± 5% sensitivity)
BP: −0.5 to +3.0 V (at 100 mmHg/V ± 1% sensitivity)
HT: 5.0 to 15.0 V (Open collector output: 0.5 to 50 mA)
Frequency response:
ECG: ≥ 0.5 to 100 Hz (≥ −3 dB) (No reproducibility of pace maker pulse)
BP: DC to 20 Hz ±3 Hz (−3 dB)
HT pulse width: 15 ms, 100 ms
Offset:
ECG: ≤ ±50 mV
BP: ≤ ±10 mV
Delay:
ECG: Up to 20 ms
BP: Up to 40 ms
HT: Up to 20 ms

◆ **Dimensions and Weight (approximate)**
PVM-4000 series bedside monitor:
　276 W x 237 H x 143 D mm
　3.3 kg
WS-470P recorder unit:
　166.5 W x 67.5 H x 95.2 D mm
　0.375 kg
QI-470P Interface:
　124.5 W x 123.5 H x 41.5 D mm
　0.125 kg

Safety Standard

IEC 60601-1:2005+Amendment 1:2012
IEC 60601-1-2:2014
IEC 60601-1-6:2010+Amendment 1:2013
IEC 60601-1-8:2006+Amendment 1:2012 1, 3
IEC 60601-1-9:2007
IEC 60601-2-27:2011
IEC 80601-2-30:2009+Amendment 1:2013
IEC 60601-2-34:2011 2, 4
IEC 60601-2-49:2011
IEC 62304:2006+Amendment 1:2015
IEC 62366:2007+Amendment 1:2014
EN ISO 14971:2012
ISO 80601-2-55:20112
ISO 80601-2-56:2009
ISO 80601-2-61:2011
1 Except for the interbed alarm sound
2 PVM-4733, PVM-4753, PVM-4763 only
3 To comply with the requirements from international
standards for distributed alarm systems, use the
monitor with a central monitor that complies with these
standards. The system will not comply with some of the
requirements from international standards for distributed
alarm systems if used with a non-compliant central
monitor.
4 Complies with IEC 60601-2-34:2011 only when
"Available Alarm Types" in the [Alarm] → [Disply/Sound]
is set to "All".

Environment

Transport and Storage Environment

Temperature: −20 to +65°C (−4 to +149°F)
−15 to +55°C (+5 to 131°F) (recording paper)
Humidity: 10 to 95% RH
Atmospheric pressure: 700 to 1060 hPa

Operating Environment and Power

Operating environment

Temperature: 5 to 40°C (41 to 104°F)
SpO_2 accuracy is guaranteed at surrounding
temperature of 18 to 40°C (64 to 104°F).
Relative humidity: 15 to 85% RH (noncondensing)
Atmospheric pressure: 700 to 1060 hPa

Power

Line voltage:
   AC: 100 to 240 V
   DC (battery): 10.8 V
Power input:
   AC: 125 VA
   DC (battery): 35 W
Line frequency: 50 or 60 Hz
Battery charging current: 2270 mA

Noise

Equipment used in medically used room: ≤ 48 dBA

Cooling system

Natural cooling (no fans)

Electromagnetic Compatibility

IEC 60601-1-2:2014

STANDARD ACCESSORIES

Bedside monitor, PVM-4761/4763/4731/4733
Power cord (220-240V)   1

Bedside monitor, PVM-4751/4753
Power cord (220-240V)
JL-650P, Nellcor SpO2 connection cord   1

Recorder module, WS-470P
Recording paper, FQW50-2-100   1
Thermal head cleaner pen   1

OPTIONAL ACCESSORIES

Accessory set

	Y212A	Y212B	Y213A	Y213B
Model	YO-60IY1	YO-60IY2	YO-60AY1	YO-60AY2
Electrode lead, 3 electrode, clip, IEC, K911 (BR-903P), 0.8 m	✓	✓		
Electrode lead, 3 electrode, clip, AHA, K911A (BR-903PA), 0.8 m			✓	✓
ECG connection cord, IEC, K922 (JC-906P),3 m	✓	✓		
ECG connection cord, AHA, K922A (JC-906PA), 3 m			✓	✓
SpO₂ connection cord, K931 (JL-900P), 2.5 m	✓	✓	✓	✓
Air hose for NIBP, S902 (YN-901P),3.5 m	✓	✓	✓	✓
NIBP cuff,13 cm width, 23-33 cm range, S951D (YP-713T)	✓		✓	
NIBP cuff, 16 cm width, 33-45 cm range, S951E (YP-714T)		✓		✓

When ordering PVM-4751.4753 (Nellcor), PVM-4731/4733 (Masimo), order accessory set below.

Order code	Y212C	Y212D
Model	YO-60IY3	YO-60IY4
Electrode lead, 3 electrode, clip, IEC, K911 (BR-903P), 0.8 m	✓	✓
ECG connection cord, IEC, K922 (JC-906P),3 m	✓	✓
Air hose for NIBP, S902 (YN-901P),3.5 m	✓	✓
NIBP cuff,13 cm width, 23-33 cm range, S951D (YP-713T)	✓	
NIBP cuff, 16 cm width, 33-45 cm range, S951E (YP-714T)		✓

OPTIONS

Recorder module, WS-470P
Battery pack, SB-470P
Interface, QI-470P
Transmitter, ZS-900P
esCCO program, QP-470P
Software upgrade kit, QS-128P
Wireless LAN station, QI-520P
Cart, KC-470P
Adapter for mounting on the KC-470P, DH-470P
Hook for attaching the bedside monitor to the bed board, DZ-470P
Holder for installing the ZS-900P, DI-471P
Holder for installing the QI-520P, DI-470P

CONSUMABLES

ECG and Respiration (Impedance)

Cable/cord
K911 Electrode lead, BR-903P, for 3 electrodes, clip, IEC, 0.8 m
K911A Electrode lead, BR-903PA, for 3 electrodes, clip, AHA, 0.8 m
K917 Electrode lead, BR-923P, for 3 electrodes, clip, IEC, 1.5 m
K916 Electrode lead, BR-963P, for 3 electrodes on one lead, clip, IEC, 0.8 m
K905 Electrode lead, BR-973P, for 3 electrodes, clip, IEC, 1.25 m, for low impedance neonate/child
K906 Electrode lead, BR-975P, for 5 electrodes, clip, IEC, 1.25 m, for low impedance neonate/child
K912 Electrode lead, BR-906P, for 6 electrodes, clip, IEC, 0.8 m
K912A Electrode lead, BR-906PA, for 6 electrodes, clip, AHA, 0.8 m
K918 Electrode lead, BR-926P, for 6 electrodes, clip, IEC, 1.5 m
K922 ECG connection cord, JC-906P, 3/6 electrodes, IEC, 3 m
K922A ECG connection cord, JC-906PA, 3/6 electrodes, AHA, 3 m
K925 ECG connection cord, JC-916P, 3/6 electrodes, IEC, 1.5 m
L021 Adapter, JC-990P, for low impedance neonate/child

Disposable electrodes (Vitrode series)
G207 L-150X, for general use, X-ray (radiolucent), 30 electrodes × 5/set, 35 mm dia, Vitrode L
G210D F-150M, for adult/child, 3 elec- trodes × 50/set, 25 × 45 mm, Vitrode F
G210C F-150S, for neonate/child, 3 electrodes × 50/set, 18 × 36 mm, Vitrode F
G221 G-600, for ICU/OR, 30 electrodes × 20/set, 47 × 47 mm, Vitrode G
G272A V-090M3, for general use, 3 electrodes × 30/ set, DIN, 25 × 45 mm, lead 1.0 m, Vitrode V
G278A V-09IO3, for general use, 3 electrodes × 30/ set, DIN, 25 × 45 mm, lead 1.5 m, Vitrode V
G272B V-040M4, for general use, 4 electrodes × 10/ set, 25 × 45 mm, lead 1.0 m, DIN, Vitrode V
G273A V-04IO4, for general use, 4 electrodes × 10/ set, DIN, 25 × 45 mm, lead 1.5 m, Vitrode V
G272C V-060M6, for general use, 6 electrodes × 10/ set, DIN, 25 × 45 mm, lead 1.0 m, Vitrode V
G274A V-06IO6, for general use, 6 electrodes × 10/ set, DIN, 25 × 45 mm, lead 1.5 m, Vitrode V
G271A V-120S3, for NICU, 3 electrodes × 40/set, DIN, 20 × 20 mm, Vitrode V
G300A N-03IS3, for NICU, 3 electrodes x 10/set, DIN, 14 x 25 mm, Vitrode N
G300D N-01IS3, for NICU, 3 electrodes x 10/set, DIN, 15 mm dia, Vitrode N

SpO$_2$

SpO$_2$ Cord
K931 SpO$_2$ connection cord, JL-900P, 2.5 m
K935 Nellcor SpO$_2$ connection cord, JL-650P, 3 m
K936 Masimo SpO$_2$ connection cord, for LNOP series, JL-630P, 3.6 m
K937 Masimo SpO$_2$ connection cord, for LNCS series, JL-631P, 3 m
K943A Masimo SpO$_2$ connection cord, for RD SET series, JL-632P, 3.6 m

Probes (BluPRO series)
P225F Finger probe, TL-201T, finger-clip type
P311C Finger probe, TL-631T3, regular size, attached to finger or toe by tape
P310C Finger probe, TL-630T3, large size, attached to finger or toe by tape
P225G Multi-site probe, TL-220T, attached to adult/child finger/toe or neonate instep and sole by tape
P267 Probe fastener, YS-093P2, 30 pcs/set, for TL-631T3/TL-630T3

Disposable probes (BluPRO series)
P203A TL-271T, for adult finger or toe, 24 pcs/set, 0.8 m
P204A TL-271T, for adult finger or toe, 5 pcs/set, 0.8 m
P203E TL-271T3, for adult finger or toe, 24 pcs/set, 1.6 m
P204E TL-271T3, for adult finger or toe, 5 pcs/set, 1.6 m
P203B TL-272T, for child finger or toe, 24 pcs/set, 0.8 m
P204B TL-272T, for child finger or toe, 5 pcs/set, 0.8 m
P203F TL-272T3, for child finger or toe, 24 pcs/set, 1.6 m
P204F TL-272T3, for child finger or toe, 5 pcs/set, 1.6 m
P203C TL-273T, for neonate instep, 24 pcs/set, 0.8 m
P204C TL-273T, for neonate instep, 5 pcs/set, 0.8 m
P203G TL-273T3, for neonate instep, 24 pcs/set, 1.6 m
P204G TL-273T3, for neonate instep, 5 pcs/set, 1.6 m
P203D TL-274T, for infant finger or toe, 24 pcs/set, 0.8 m
P204D TL-274T, for infant finger or toe, 5 pcs/set, 0.8 m
P203H TL-274T3, for infant finger or toe, 24 pcs/set, 1.6 m
P204H TL-274T3, for infant finger or toe, 5 pcs/set, 1.6 m

Multi-site Y probe
P205A Multi-site Y probe, TL-260T (for adult, child, neonate), 5 pcs/set
P260E Sponge attachment tape S for TL-260T multi-site Y probe, 24 pcs/set
P260F Sponge attachment tape L for TL-260T multi-site Y probe, 24 pcs/set
P256 Ear clip adapter for TL-260T, reusable

Disposable probes
P228A TL-051S, for adult/neonate, 5 pcs/set, 0.8 m cable

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P228B TL-052S, for adult/neonate, 5 pcs/set, 1.6 m cable
P229A TL-061S, for child/infant, 5 pcs/set, 0.8 m cable
P229B TL-062S, for child/infant, 5 pcs/set, 1.6 m cable
P260C Foam tape, for TL-051S/052S/061S/062S, 100 pcs
P206 TL-535U, for neonates and preterm infant, 5 pcs/set
P264A Attachment tape, for TL-535U, S: 1kg or less, 24 pcs
P264B Attachment tape, for TL-535U, L: 2.5kg or less, 24 pcs

Nellcor SpO$_2$ probes are available from MEDTRONIC (www.medtronic.com) or their suppliers

Masimo SpO$_2$ probes are available from MASIMO (www.masimo.com) or their suppliers

NIBP

Reusable Cuffs (Latex free)
S943A YP-960T: for infant, 5 cm cuff width

S943B YP-961T: for child, 7 cm cuff width

S943C YP-962T: for child, 10 cm cuff width

S944B YP-963T: for adult, 13 cm cuff width

S944C YP-964T: for adult, 15 cm cuff width

S944D YP-965T: for thigh, 19 cm cuff width

Reusable Cuffs (YAWARA-CUFF 2 series, Latex free)

S951A YP-710T: for infant, 5 cm cuff width

S951B YP-711T: for child, 7 cm cuff width

S951C YP-712T: for adult small, 10 cm cuff width

S951D YP-713T: for adult, 13 cm cuff width

S951E YP-714T: for adult large, 16 cm cuff width
S951F YP-715T: for thigh, 19 cm cuff width

Disposable Cuffs
S945C YP-810P: for infant, 6 cm cuff width, 20 pcs
S945D YP-811P: for child, 8 cm cuff width, 20 pcs
S946E YP-812P: for adult, 10 cm cuff width, 20 pcs
S946F YP-813P: for adult, 14 cm cuff width, 20 pcs
S946G YP-814P: for adult, 15 cm cuff width, 20 pcs
S946H YP-815P: for adult, 17 cm cuff width, 20 pcs
S946I YP-816P: for adult, 18 cm cuff width, 20 pcs
S946J YP-817P: for thigh, 20 cm cuff width, 20 pcs

S948A YP-820P: for neonate, 2 cm cuff width, 10 pcs, Luer connector
S948B YP-821P: for neonate, 3 cm cuff width, 10 pcs, Luer connector
S948C YP-822P: for neonate, 4 cm cuff width, 10 pcs, Luer connector
S948D YP-823P: for neonate, 4.5 cm cuff width, 10 pcs, Luer connector
S948E YP-824P: for neonate, 5 cm cuff width, 10 pcs, Luer connector
S948F YP-820S: for neonate, 2 cm cuff width, 10 pcs, SnapQuick connector
S948G YP-821S: for neonate, 3 cm cuff width, 10 pcs, SnapQuick connector
S948H YP-822S: for neonate, 4 cm cuff width, 10 pcs, SnapQuick connector
S948I YP-823S: for neonate, 4.5 cm cuff width, 10 pcs, SnapQuick connector
S948J YP-824S: for neonate, 5 cm cuff width, 10 pcs, SnapQuick connector

Disposable Cuffs (Nihon Kohden original cuff)
S954A YP-840T: for infant, 5cm cuff width, 20 pcs
S954B YP-841T: for child, 7 cm cuff width, 20 pcs
S954C YP-842T: for adult, 10 cm cuff width, 20 pcs
S954D YP-843T: for adult, 13 cm cuff width, 20 pcs
S954E YP-844T: for adult, 16 cm cuff width, 20 pcs
S954F YP-845T: for thigh, 19 cm cuff width, 20 pcs

Air hoses
S901 YN-900P: 1.5 m

S902 YN-901P: 3.5 m

S903 YN-990P: extension hose, 1.5 m

S904 YN-920P: for neonate, 1.5 m, Luer connector

S905 YN-921P: for neonate, 3.5 m, Luer connector for IEC 2nd edition

S904A YN-924P: for neonate, 1.5 m, SnapQuik connector

S905A YN-925P: for neonate, 3.5 m, SnapQuick connector for IEC 3rd edition

IBP

Merit Medical (Argon):
K951 IBP connection cord, JP-900P, Merit Medical blood pressure transducers are available from Merit Medical (www.merit.com) or their supplier.
Edwards Lifesciences:
L901 IBP connection cord, JP-920P, for Edwards Lifesciences transducer, 3.5 m Edwards Lifesciences blood pressure transducers are available from Edwards Lifesciences Corporation (www.edwards.com)

or their suppliers.
Biosensors International:

K957 IBP connection cord, JP-960P, for Biosensor transducer, 3.5 m
Biosensors blood pressure transducers are available from BIOSENSORS INTERNATIONAL (www.biosensorsintl.com) or their suppliers.
Others:
K952 IBP connection cord, JP-910P

Temperature

K961 Temperature connection cord, JT-900P, 30 cm

Thermistor Probe

P240B For adult rectum/esophagus, 401J

P241B For child rectum/esophagus, 402J

P242D DisG2c type, 409J

P249A Probe cover, for 401J, 10 pcs/set

P252 Temperature insulation pad, for 409J, 60 pcs/set

CO_2 (Mainstream measurement)

Semi-quantitative method
P903 CO_2 sensor kit, TG-900P (TG-101T + JG-900P), 3 m

P922A CO_2 sensor, TG-101T, 1 m

K981 CO_2 adapter, JG-900P, 2 m

R801 Airway adapter, YG-101T, 50 pcs/set

P907 CO_2 sensor kit, TG-920P (TG-121T + JG-920P), 3.5 m

P923 CO_2 sensor, TG-121T, 2 m

K984 CO_2 adapter, JG-920P, 1.5 m

R804 Airway adapter, YG-111T, 30 pcs/set

V921 Nasal adapter, YG-121T, for nasal, 30 pcs/set

V922 Nasal adapter, YG-121T, for nasal/oral, 30 pcs/set
V923 Nasal adapter, YG-122T, for nasal/oral, 30 pcs/set, with O_2 supply tube adapter
V927A Oxygen cannula, 25 pcs/set

Quantitative method
P910A CO_2 sensor kit, TG-980P, 3.5 m

R805 Airway adapter, adult YG-211T, 30 pcs/set

R806 Airway adapter, child/neonate, YG-213T, 30 pcs/set
R807 Airway adapter, pediatric, YG-214T, 30 pcs/set
V939A cap-ONE biteblock for adult, YG-227T, 20 pcs/set
V938A cap-ONE mask, Adult, YG-272T, 30kg or more, 10 pcs/set
V938C cap-ONE mask, Large Adult, YG-282T, 40kg or more, 10 pcs/set
V933 cap-ONE mask, Pediatric, YG-232T, 20-

40kg, 10 pcs/set
V935 cap-ONE mask, Infant, YG-242T, 7-20kg, 10 pcs/set

CO

K962 CO connection cord, JT-950P, 2.0 m

Merit Medical:
Merit Medical injectate supply systems and thermodilution catheters are available from Merit Medical (www.merit.com) or their supplier.

Edwards Lifesciences:
Edwards Lifesciences injectate supply systems and thermodilution catheters are available from Edwards Lifesciences (www.edwards.com).

Recording

A721 Recording paper, FQW50-2-100, 10 pcs/set, 50 mm x 20 m

Y011 Thermal head cleaning pen, 5 pcs/set

ECG/BP out

K974 ECG/BP output cable, YJ-910P, 5 m
K975 ECG/BP output cable, YJ-920P, 0.3 m