

Life Scope *VS*

Bedside Monitor

BSM-3000 series

All for specialists



Fighting Disease with Electronics

 **NIHON KOHDEN**

All for specialist

Common issues at acute care environment

- Fluid optimization
- Sudden change in blood pressure
- Respiratory-related harms

Nihon Kohden provides the solution

Intelligible fluid optimization

Fluid optimization is essential for reducing the risk of complications. Nihon Kohden's innovative esCCO gives accurate flow information with a very simply and totally non-invasive process.

Improving patient safety in hemodynamics management

It is necessary to notice and respond as soon as possible when the patient's hemodynamics condition changes.

Nihon Kohden's iNIBP and PWTT technology provide you fast access to sudden change in blood pressure.

Save the patients from respiratory-related harms

Respiratory-related claims may cause irreversible brain damage or death. ETCO₂ is the most effective parameter to detect the trouble in breathing or ventilator.

Nihon Kohden innovative mainstream CO₂ sensor, cap-ONE provides reliable ETCO₂ monitoring for both intubated/non-intubated patients.



Intelligible fluid optimization

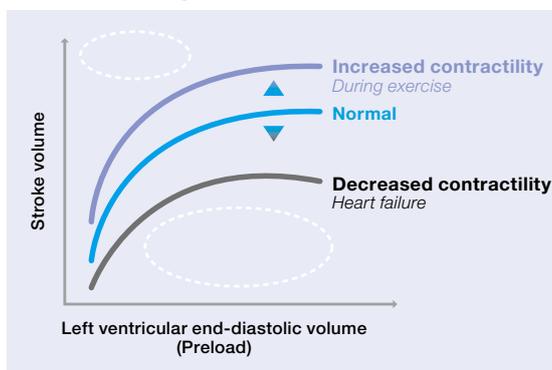
Fluid optimization

Too low fluid or too much fluid, both increase patient risk of complications. The best fluid volume that fits to each patient is necessary.

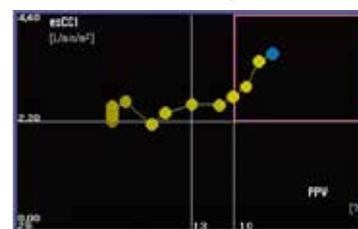
Visualizing volumetric information

Nihon Kohden's hemodynamics graph provides a more intuitive approach to diagnostic and therapeutic decision making in hemodynamic management. This new tool provides a visual Frank-Starling curve to help the clinician easily see the direction and trend of hemodynamics change.

Frank-Starling curve



Hemodynamics graph



PPV/SPV Less-invasive preload indicator

PPV (Pulse Pressure Variability) and SPV (Systolic Pressure Variability) are indicator of fluid responsiveness that can be measured in a minimally invasive way. This is a useful indicator in guiding fluid therapy for patients on mechanical ventilation.

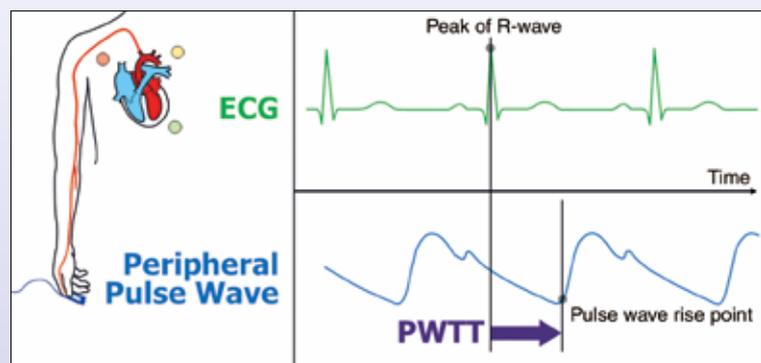


Redefining quality of care with non-invasive hemodynamics monitoring

Nihon Kohden is redefining Quality of Care with new non-invasive technologies like PWTT (pulse wave transit time) and esCCO (estimated continuous cardiac output) by introducing volumetric information to all care levels.

esCCO provides real-time, continuous non-invasive cardiac output measurement alongside the familiar vital sign parameters of ECG and SpO₂.

esCCO is very cost-saving solution because it has no additional running costs or accessories.

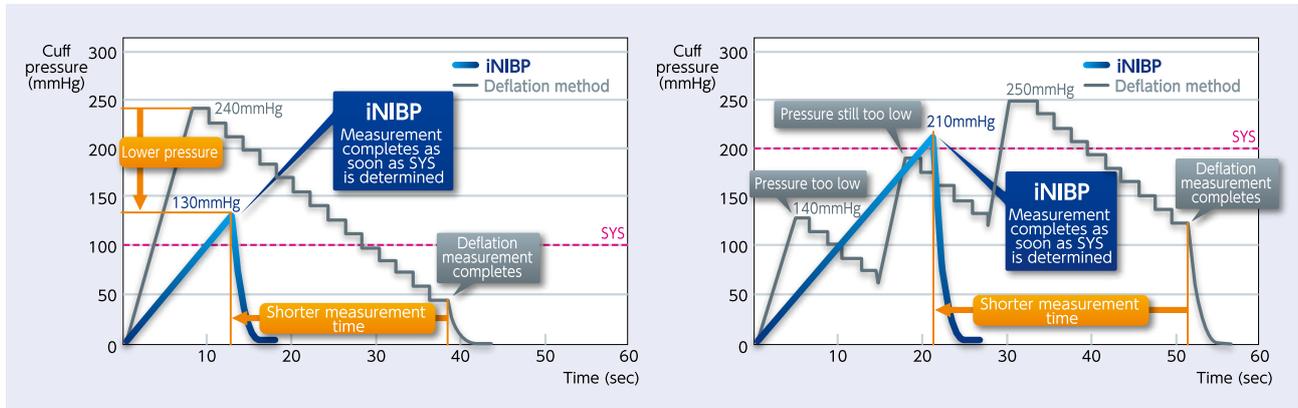


Pulse Wave Transit Time derived from ECG and pulse oximetry signal

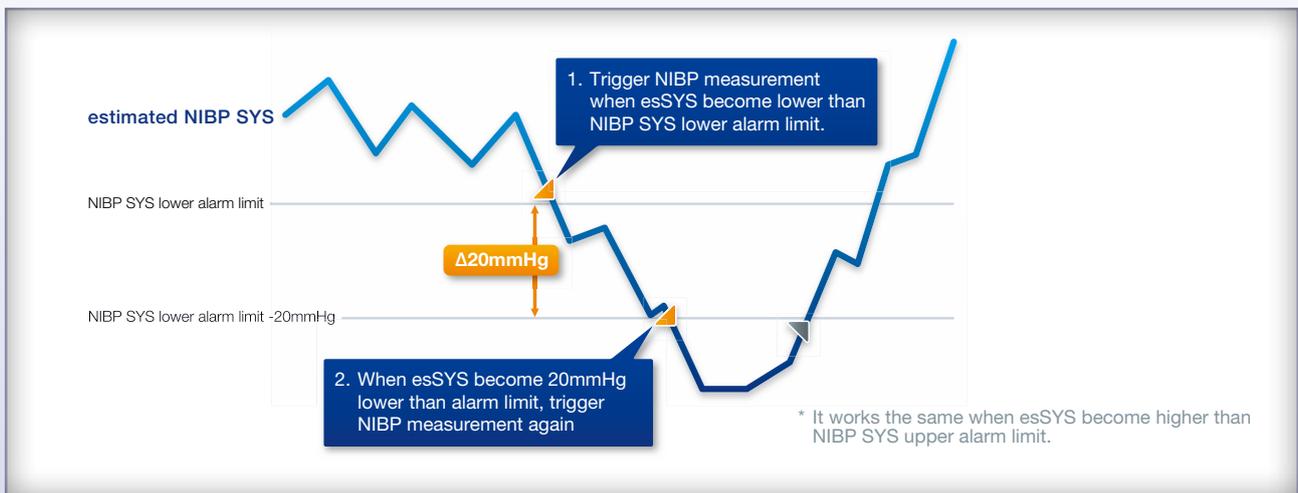
Improving patient safety in hemodynamics management



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



PWTT (Pulse Wave Transit Time) triggered NIBP measurement increases the chance of detecting a sudden change in blood pressure. When it is set to ON, the monitor calculates the estimated NIBP systolic pressure using PWTT and if it exceeds the alarm limit of NIBP systolic pressure, NIBP is subsequently measured automatically during periodic NIBP measurement.



Save the patients from respiratory-related harms

ETCO₂ measuring for safer monitoring

Respiratory-related claims may cause irreversible brain damage or death.

Guidelines recommend to measure CO₂ for all patients receiving deep sedation and for patients whose ventilation cannot be directly observed during moderate sedation. Nihon Kohden innovative main stream CO₂ sensor, cap-ONE, realizes ETCO₂ monitoring for both intubated/non-intubated patients.

CO₂ monitoring is also effective for the patients prescribed Opioid (Pain relief medication), especially with oxygen administration. Impedance respiration may miss the arrest of breathing.

cap-ONE
ORAL NASAL EXPIRATION

A new class ultra compact and highly durable sensor will change your image of mainstream CO₂ sensors being easy to break. cap-ONE provides CO₂ monitoring for both intubated and non intubated patients.



cap-ONE mask

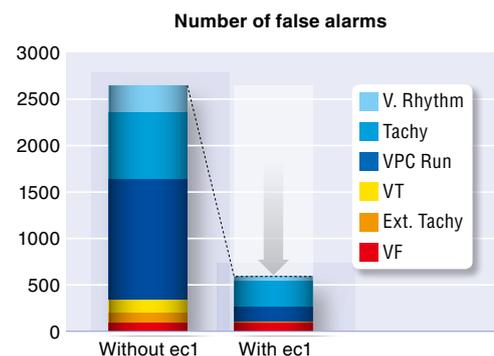
cap-ONE mask is an oxygen mask with an integrated cap-ONE mainstream capnometer sensor. ETCO₂ can be measured using the integrated sensor while supplying oxygen, thanks to a unique design which catches the exhaled gas from the nose and mouth without interference from the oxygen supply.



High quality monitoring increases accuracy

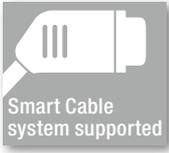
High accurate ec1 arrhythmia analysis

If there are too many false alarms, you may miss the critical situation of patients. Nihon Kohden's ec1 arrhythmia analysis provides superior elimination of false alarms. ec1 has been evaluated arrhythmia databases as well as Nihon Kohden's ECG database, with a result of 80% reduction of false alarms.



Cutting edge technologies

Smart Cable system - new modular technology



When you plug a Smart Cable into a MULTI connector, it automatically detects the type of parameter and starts measuring. The combination of fixed basic parameters and flexible MULTI connector parameters allows flexible monitoring for different patient conditions. You get complete modular flexibility at a significantly reduced cost and without the inconvenience associated with traditional modular systems.

Smart Cable system supported

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MULTI connector

IBP, APCO, CO₂, BIS, CO, NMT

Before Smart Cable connected

After Smart Cable connected

IBP, CO₂

Smart data review

- Up to 72 hours of 5 selected full disclosure waveforms
- Time is synchronized across all trend screens
- Trend table and trend graph can be customized for each patient condition
- Vital sign trend table, NIBP trend table, trend graph, arrhythmia recall, full disclosure, and alarm history provide comprehensive review



Full disclosure



Trend table



Trend graph



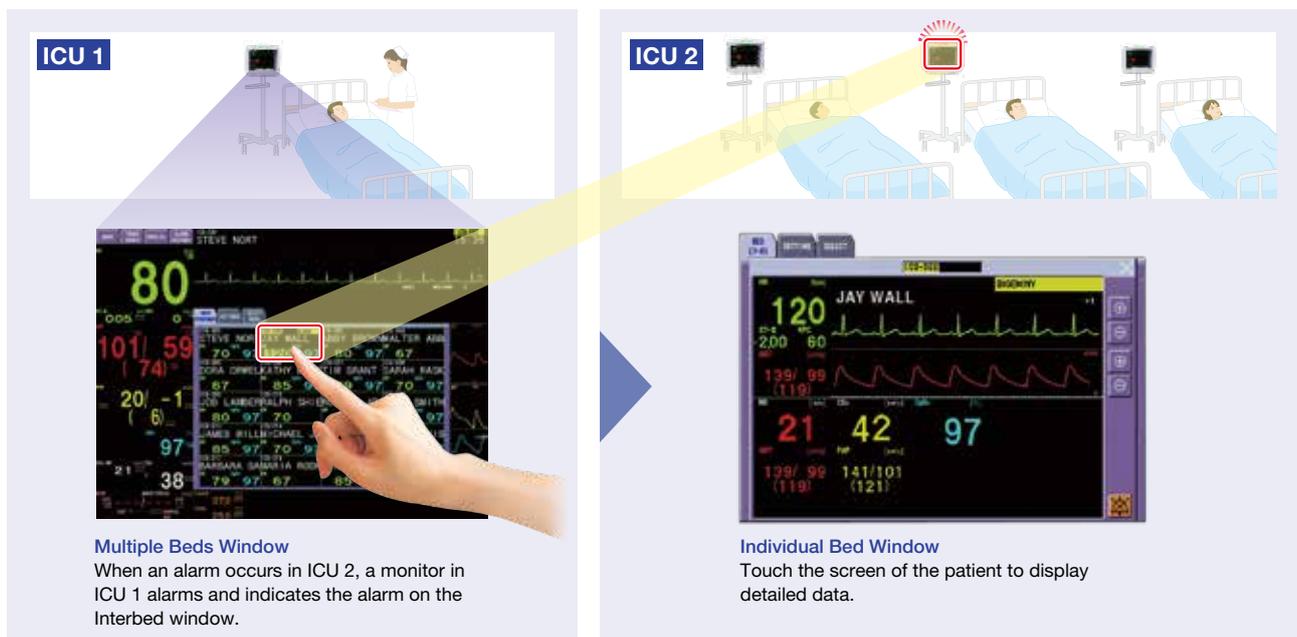
Arrhythmia recall

Monitoring system network

Interbed monitoring

You can use any bedside monitor to check the vital information and alarm status of another monitor in the network, even if there is no central monitor.

Numeric data for 20 patients or numeric data and 2 waveforms for one patient can be displayed on the Interbed screen.



ViTrac

Nihon Kohden's Unified Gateway is a client/server based application which provides a secure method for monitoring and viewing a wide range of patient data from Nihon Kohden monitors and devices. Patient data can be viewed in near real-time on an Apple's mobile iOS device within the hospital network or remotely via a VPN connection.



ViTrac provides medical personnel with monitoring information on multiple patients, any place any time.

HL7 Gateway

An HL7 gateway connects the LS-NET monitor network to the hospital or clinical information system (HIS, CIS). Vital sign data, alarm history, arrhythmia and ST recall, 12-lead analysis reports, and waveforms* in the bedside monitor can be transferred using HL7 protocol.

*Some limitations apply to transferring waveforms.



External units

<p>Hemodynamic unit AP-170P</p> 	<p>NMT module AF-101P</p> 	<p>Multigas unit GF-210R</p> <p>Multigas/flow unit GF-220R</p> 	
<p>Ventilator</p> <ul style="list-style-type: none"> • Dräger • Medtronic • MAQUET • Hamilton • GE • Newport Medical • Air Liquide • ResMed • Metran • Care Fusion • Philips Respironics • Löwenstein Medical 	 <p>BSM-3000 series</p>		<p>Neuro unit AE-918P</p> 
<p>Anesthesia workstation</p> <ul style="list-style-type: none"> • Dräger • MAQUET • Löwenstein Medical • GE • Air Liquide 			<p>BIS® processor QE-910P</p> 
<p>Transcutaneous monitor (tcpO₂ /tcpCO₂)</p> <ul style="list-style-type: none"> • Radiometer MicroGas 7650 rapid, TCM4, TCM40, TCM Combi M 			<p>Regional saturation of oxygen (rSO₂)</p> <ul style="list-style-type: none"> • Covidien INVOS 5100C 
<p>CCO monitor</p> <ul style="list-style-type: none"> • Edwards Lifesciences Vigilance, Vigilance II, Vigileo, EV1000 • ICU Medical Q2™, Q2™ Plus, Q-Vue™ • Pulsion Medical Systems PiCCO plus, PiCCO₂, PulsioFlex • LiDCO LiDCO rapid, LiDCO plus 			

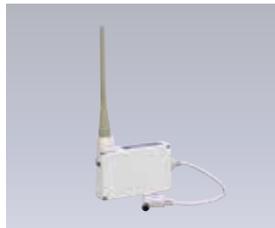
* For the complete list of devices, please contact your Nihon Kohden representative.

Major options



Input unit (MULTI connector)
AA-372P / 374P*
AA-372P (2 MULTI connector)
AA-374P (4 MULTI connector)

* To use optional AA-372P/374P, QI-374P, interface is required.



ZS-900P transmitter
can transmit data to the
central monitor wirelessly.

This brochure may be revised or replaced by Nihon Kohden at any time without notice.



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