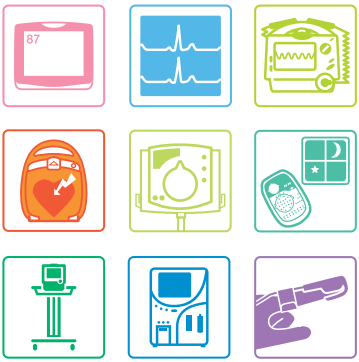
Product Guide



ANDAR INTERNATIONAL

andarint.com sales@andarint.com

Fighting Disease with Electronics

NIHON KOHDEN

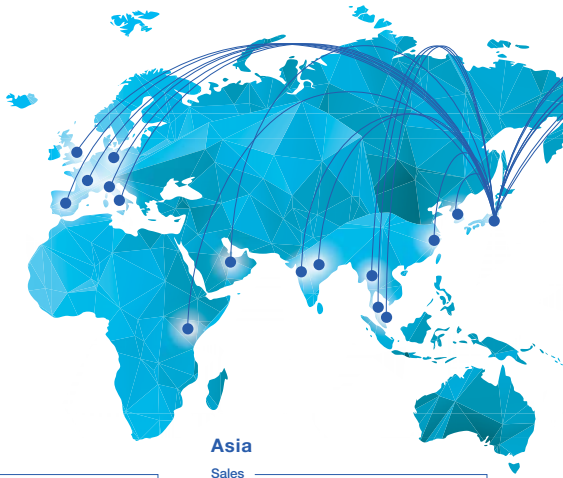
2023.1

Nihon Kohden's Expa

Becoming a global leader of medical solutions

Every year Nihon Kohden is expanding its global network, from research and development to manufacturing, sales, and service, in order to fulfill its mission to save lives with the most advanced medical technology.

Nihon Kohden began its overseas expansion with Nihon Kohden America in 1979. The Company now has the sales subsidiaries in the US, Mexico, Colombia, Brazil, Germany, France, Spain, Italy, the UK, China, Singapore, Thailand, Malaysia, India, UAE, Korea, and Kenya. A network of distributors covers the countries where Nihon Kohden does not have a direct sales system. Nihon Kohden products are exported worldwide.



Europe

Sales

Nihon Kohden Europe, GmbH
Nihon Kohden Deutschland GmbH

Nihon Kohden France Sarl

Nihon Kohden Iberica S.L.

Nihon Kohden Italia S.r.l.

Nihon Kohden UK Ltd.

Production, Sales

Nihon Kohden Firenze S.r.l.

Production

Software Team Srl

Asia

Sales

Nihon Kohden
Singapore Pte Ltd

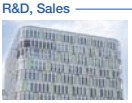
NKS Bangkok Co., Ltd.

Nihon Kohden India Pvt. Ltd.

Nihon Kohden Middle East FZE

R&D, Sales

Nihon Kohden Korea, Inc.



Shanhai Kohden Medical
Electronics Instrument Corp.

Production, Sales

Nihon Kohden
Malaysia Sdn. Bhd.

Production

Shanghai Kohden Medical
Electronics Instrument Corp.

Nihon Kohden India Pvt. Ltd.

Nihon Kohden Middle East FZE

nding Global Network

Nihon Kohden products are used in more than 120 countries

Since its founding in 1951, Nihon Kohden has continued to provide a wide range of medical electronic equipment including EEG, EMG/EP measuring systems, electrocardiographs, bedside monitors, defibrillators, hematology analyzers and ventilators. In particular Nihon Kohden has a high market share in EEG. Demand for medical equipment varies by country and region so the Company makes the most appropriate strategy for each region.

Americas

Sales

Nihon Kohden America, Inc.

Nihon Kohden Mexico S.A. de C.V.

Nihon Kohden Latin America S.A.S.

Nihon Kohden Do Brasil Ldta.

R&D, Production, Sales

Defibtech, LLC

Nihon Kohden OrangeMed, Inc

R&D

Neurotronics, Inc.

Nihon Kohden Digital Health Solutions, Inc.

Nihon Kohden Innovation Center, Inc.

Japan

Headquarters

Nihon Kohden Corporation

Nihon Kohden Corporation, Tokorozawa Office

R&D

Advanced Technology Center

Production

Nihon Kohden Tomioka Corporation
Nihon Kohden Corporation, Kawamoto factory

Network in Japan

Sales
12 branch offices and over 100 sales offices in Japan

Service
11 area service depots and
over 70 service centers / service stations in Japan

History

Over half a century of contributing to

1951

ME-1D

1951: Yoshio Ogino founds Nihon Kohden with the unique vision of “fighting disease with electronics.”

1951: Nihon Kohden develops the world’s first electroencephalograph which is completely AC powered (ME-1D).

1960s

ICU-80 patient monitor

1967: Japan's first ICU monitor is installed at Tohoku University School of Medicine in Sendai city. This monitor, the ICU-80, is developed by Nihon Kohden.

1970s

OLV-5100

1974: Nihon Kohden researcher Takuo Aoyagi develops the principle of pulse oximetry. All pulse oximeters today are based on Dr. Aoyagi's original principle of pulse oximetry.

1980s

OEC-5501

1982: Nihon Kohden pioneers arrhythmia analysis in patient monitors. This epoch-making technology first appears in the company’s Life Scope 10 OEC-5501 heart monitor.

ECG-8210

1987: Nihon Kohden develops the world’s first electrocardiograph with an LCD display, the ECG-8210. This revolutionary development allowed checking of the ECG before starting recording.

1990s

BSM-8502

1991: Nihon Kohden develops the world’s first digital multi-parameter telemetry bedside monitor, the Life Scope 12 BSM-8502.

EEG-2100

1994: Nihon Kohden introduces the world’s first Windows® based digital EEG, Neurofax EEG-2100. It provides unparalleled ease of use.

2000s

2003: Nihon Kohden develops the world's smallest CO_2 sensor. It enables measurement of mainstream CO_2 for nonintubated patients.

ZS-940P

2004: Nihon Kohden introduces the world's first wireless monitoring of ECG, respiration, SpO_2 and NIBP with its ZS-940P transmitter.

2010s

esCCO

synECi 18
Synthesized Electrocardiogram

2010: Nihon Kohden America received the Outstanding Service Achievement award from Medical Strategic Planning (MSP) for the highest customer satisfaction among patient monitoring vendors for the fifth consecutive year.

2012: Nihon Kohden introduces bedside monitors with esCCO, and electrocardiograph with synthesized 18-lead ECG.

2015: Nihon Kohden's Dr.Takuo Aoyagi receives 2015 IEEE Medal for Innovations in Healthcare Technology.

AE-120A

2018: Nihon Kohden receives the Red Dot Award : Product Design 2018 for the telemetry amplifier, AE-120A EEG headset.

NKV-550

NKV-330

cap-ONE NPPV mask

2019: Nihon Kohden introduces the first in-house invasive (tracheal intubation type) ventilator, NKV-550 and NPPV ventilator system with O_2 therapy mode, NKV-330. NPPV mask is also introduced which is specially designed to fit any facial shape.

2020s

MEK-1305

2020: Nihon Kohden introduced MEK-1305 as the world's first product, an automated hematology analyzer with ESR, for the quick screening of infectious disease.

Bedside Monitors

Revolutionizing

Life Scope G7

CSM-1701/1702

Input unit: separate

TFT LCD touch screen
CSM-1701: 15.6-inch, CSM-1702: 19-inch

Number of waveforms:
CSM-1701: 15, CSM-1702: 17

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO_2, TEMP

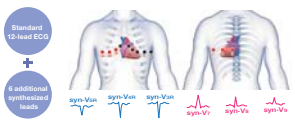
MULTI connector parameters:
Up to 11
IBP, TEMP, CO, CO_2 (mainstream), BIS, SpO_2-2*, NMT
*depending on the monitor configuration

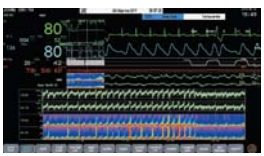
Options
Hemodynamic unit (PiCCO, Pro-AQT, CeVOX), Multigas, FLOW/Paw, EEG (CSA/DSA, aEEG), esCCO, synECi18

Other features
- 12-lead ECG analysis

Human Machine Interface

- Continuous NeuroMonitoring
- Synthesized 18-lead ECG (synECi18, refer to page 24-25)
- cap-ONE CO_2 sensor provides accurate and stable CO_2 monitoring for both intubated and non-intubated patients





Relationship

Life Scope G5

CSM-1501/1502

Input unit: on the back

TFT LCD touch screen
CSM-1501: 12.1-inch, CSM-1502: 15.6-inch

Number of waveforms:
15

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO_2, TEMP

MULTI connector parameters:
Up to 11
IBP, TEMP, CO, CO_2 (mainstream), BIS, SpO_2-2* , NMT
*depending on the monitor configuration

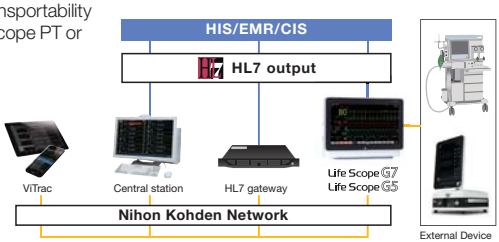
Options
Hemodynamic unit (PiCCO, ProAQT, CeVOX), Multigas,FLOW/Paw, EEG (CSA/DSA,aEEG), esCCO, synECi18

Other features
- 12-lead ECG analysis

Holistic care platform

Life Scope G5/G7 can be interfaced with various devices and the data including data from external devices will be sent to an integrated system.

- Superior transportability using Life Scope PT or input unit



Preventive Intervention

The integrated data will be analyzed and used to select optimal treatment for each patient and provide early preventive measures.

- Hemodynamics graph (refer to page 15)
- Estimated continuous cardiac output (esCCO, refer to page 14)
- iNIBP - Speedy and gentle NIBP monitoring (refer to page 14)

Bedside Monitors

Quick & simple EEG monitoring

CerebAir

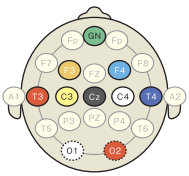
EEG headset AE-120A

Neuro unit AE-920P

Life Scope G series

Quick EEG monitoring

- Fixed electrode position
- Disposable electrode with refilled gel
- No skin preparation needed
- Noise-robust
- Bluetooth Wireless communication

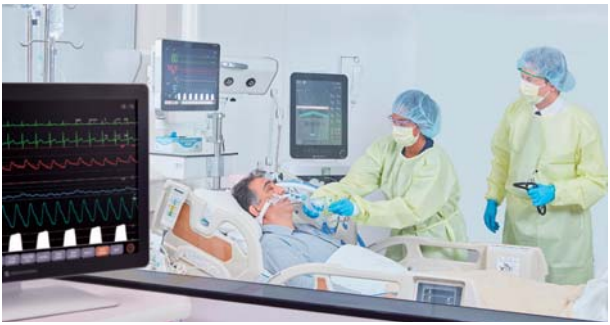


User-friendly software

- Step by-step fitting guide
- EEG electrode status by color
- aEEG/DSA together with cardiovascular trend graphs

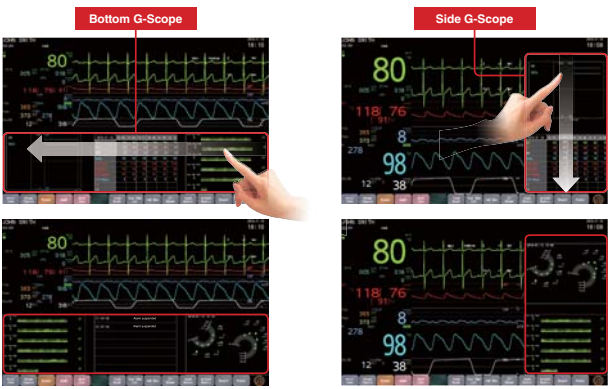
Expandability

- Multiple display options for infection control.
  The patient monitor in the isolation room can be operated by the display option outside the isolation room. (Refer to picture below)
  2nd Display option: VL-215R, VL238R
- Operate the patient monitor without touching by using a remote controller. (Remote controller: RY-910P)
- One remote controller can cover a maximum of 9 patient monitors and can set 6 function keys.
  (e.g., NIBP start/stop, Full disclosure, etc.)



Decisive Information

Life Scope G series allows reviewing previous data without hiding the current vital signs and waveforms.
Just swipe the side of or the bottom of the screen and select from three preset review screens.



Bedside Monitors

A real transport monitor

Life Scope PT

BSM-1700 series

TFT LCD 5.7-inch touch screen

Number of waveforms: 9

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO_2 (Nihon Kohden, Nellcor OxiMax or Masimo SET), TEMP

MULTI connector parameters
IBP, CO_2, CO, BIS, SpO_2-2

Option
esCCO

Other features
- 12-lead ECG analysis
- 72-hour, 5 waveforms full disclosure (Standard mode)
- 5-hour battery operation

One action to go

To transport the patient, just remove the Life Scope PT from the cradle with one action without losing parameters.
It is easy to carry and you can hook it onto a bed rail without a bed rail adapter.

Powerful input unit

Life Scope PT can be used as input unit of BSM-6000 and CSM bedside monitors.

Superior visibility

Large 5.7-inch screen clearly displays all parameters. MULTI connectors allow flexible parameters and optimal monitoring based on the patient condition.

Standard mode

Transport mode

Mobile solution

Life Scope G3

Vital Sign Telemeters
GZ-130P
GZ-140P

3.2-inch touch screen

Basic parameters
GZ-130P: ECG, RESP, SpO_2
GZ-140P: ECG, RESP, SpO_2, NIBP (iNIBP)

IEEE 802.11a/b/g/n WLAN network

Safety

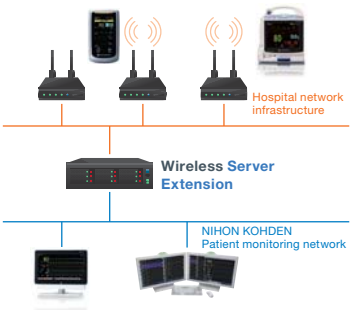
Life Scope G3 is a wearable vital sign telemeter to support various phases of ambulatory patient care such as rehabilitation or transport.



Streamlining

Life Scope G3 lets you confirm alarm and review data intuitively at patient side to help streamline your work flow.


Data accessibility



By installing Wireless Server Extension, you can access patient data using hospital's infrastructure investment.

Central Monitors

CNS-6201

- 24-inch wide display
- Dual display
- 32 patients*
- LAN, WLAN and telemetry
- 120-hour data storage
- 12-lead ECG analysis
- Full disclosure
- Transport function

*Option required

CNS-9101

- 24-inch display
- 48 patients*
- Dual display
- 120-hour data storage
- 12-lead ECG analysis
- Full disclosure

*Option required

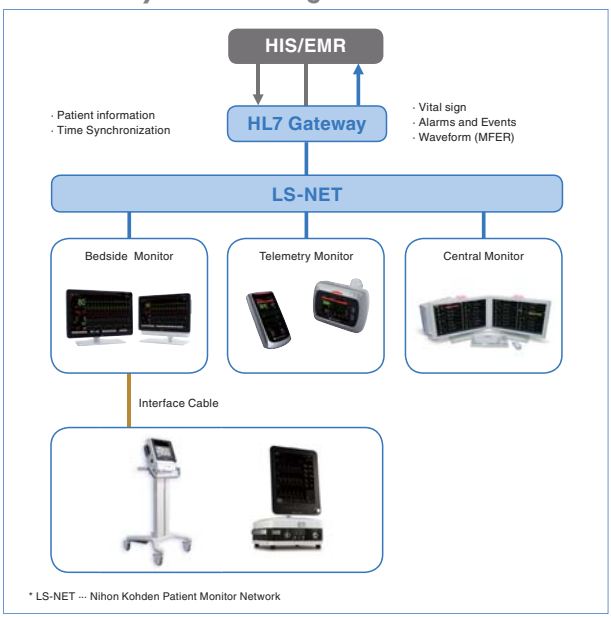
HL7 Gateway

QP-993PK

The gateway server enables data communication between the hospital or clinical information system (HIS, CIS) and Life Scope Network.

Waveforms are also transferred by MFER, which is the new standard for medical waveforms.

HL7 Gateway Network Diagram



ENTERPRISE GATEWAY INTERNATIONAL

SMART. SAFE. SECURE.

The Enterprise Gateway international provides a smart, safe, and secure method for delivering patient data. With the ability to support up to 500 devices and 100 clients for remote viewing, it features multilevel security controls, restricting access to patient data based on user access rights.

ViTrac Remote Viewing

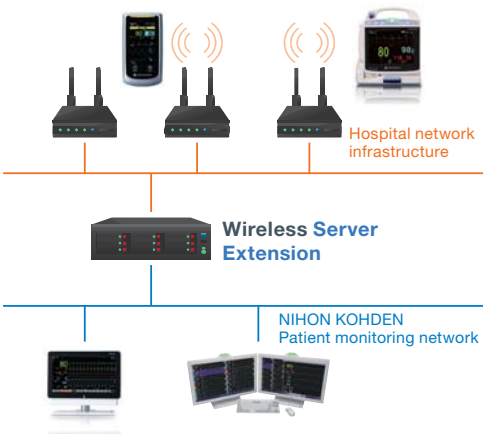
ViTrac provides monitoring information of multiple patients on an iPhone, iPad, or an Android device. Patient data can be viewed in near real-time within the hospital network or remotely via a VPN.

Waveform screen

Arrhythmia recall

Wireless Server Extension

Patients have better outcomes when they receive the same level of physiological monitoring during transport as they do in the ICU. Wireless Server Extension adds capabilities that include a backfill of up to 15 minutes of data when a device reconnects to the wireless network after losing network connectivity for at least 15 seconds.



Monitoring Technology

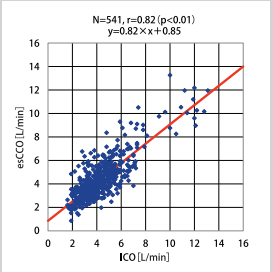
Redefine quality of care
Continuous Cardiac Output from ECG and SpO_2

Nihon Kohden is redefining Quality of Care with new, non-invasive technologies like PWTT and esCCO by introducing volumetric information to all care levels.

Estimated Continuous Cardiac Output (esCCO) is a new technology to determine the cardiac output using Pulse Wave Transit Time (PWTT). PWTT is obtained by the familiar vital sign parameters of ECG and pulse oximetry. With esCCO, cardiac output can be measured continuously with a very simple and totally non-invasive process.

Performance of esCCO

In 2009, a multi center study at seven facilities verified the effectiveness of esCCO as a practical application.

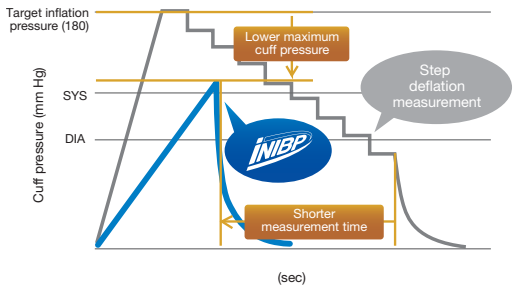


Comparison between esCCO and cardiac output by cold bolus thermodilution(ICO)

Be impressed, free from stress

Non-invasive blood pressure measurement with speed, gentleness, and reliability.

iNIBP is Nihon Kohden's unique algorithm to measure NIBP during inflation. It provides fast and painless measurement of NIBP. YAWARA CUFF 2, Nihon Kohden's special cuffs, prevent subcutaneous bleeding, increase patient comfort and reduce noise for more accurate measurement.



iNIBP completes the measurement faster with lower cuff pressure.

New Hemodynamics Graph

The Hemodynamics Graph is a new monitoring tool which shows overall hemodynamic information. A trendgraph at the top and two target graphs below show the relationship of two hemodynamic parameters.

Hemodynamics Graph

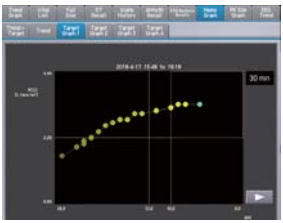
Target Graph Features

- Preload parameters such as CVP and PPV on the X axis
- Cardiac function parameters such as cardiac index on the Y axis
- Brightness level of the traces and plots shows hemodynamic change over time
- Red target zones show target areas of treatment

Various Combinations of Hemodynamic Parameters

The Target Graphs can show different hemodynamic parameters for different clinical conditions. You can select appropriate hemodynamic parameters from invasive to non-invasive depending on the condition. For example, target graphs for PPV and esCCO provide minimally invasive hemodynamic monitoring for fluid management. Intermittent invasive parameters such as cardiac output by bolus thermodilution and pulmonary wedge pressure can also be used for the Target Graphs.

The Hemodyanamics Graph can open up new ways to manage hemodynamics for all care levels more efficiently and effectively.



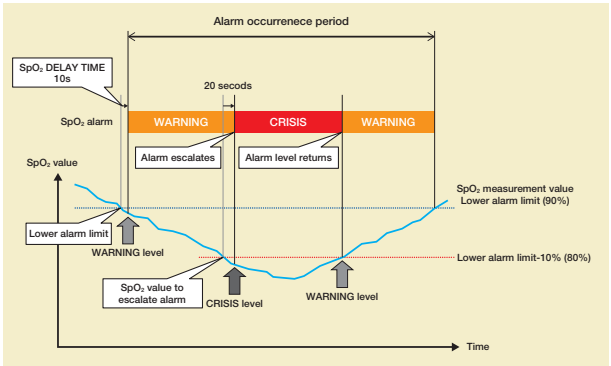
AP-170P Hemodynamic unit supports PiCCO, ProAQT and CeVOX technologies with one unit.

Patient Safety
All Bed Alarm Events

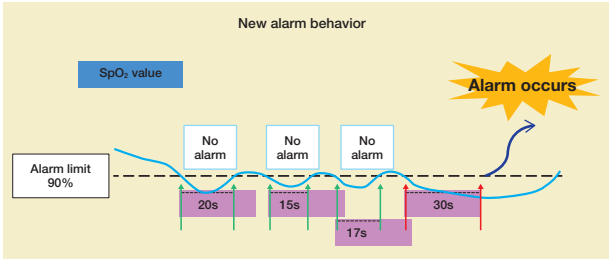
"All bed alarm events" show what type of alarm was triggered by which factor.
e.g., "Warning alarm by upper HR limit alarm"
This helps set the appropriate limitation alarm.

SpO_2 alarm escalation and delay

SpO_2 alarm escalation and delay function can help reduce alarm fatigue and overlook of an alarm.



SpO_2 alarm escalation is a feature that escalates the alarm level to a higher one triggered by either elapsed time of the alarm or by a drop in numeric value.



SpO_2 alarm delay is a feature that delays the alarm from sounding. For example, the graph shows the delay time of 30 seconds which means after reaching the alarm limit, the alarm will not sound for 30 seconds. This can prevent the alarm from sounding due to a temporary drop in numeric value.

Bedside Monitors

Life Scope Vs

BSM-3000 series

BSM-3500 BSM-3700

TFT LCD touch screen
BSM-3500: 12.1-inch, BSM-3700: 15-inch

Number of waveforms
BSM-3500: 15, BSM-3700: 15

Basic parameters
ECG, RESP, NIBP, SpO_2 (Nihon Kohden, Nellcor OxiMax or Masimo SET), TEMP

MULTI connector parameters
IBP, CO, CO_2 (mainstream), BIS, NMT

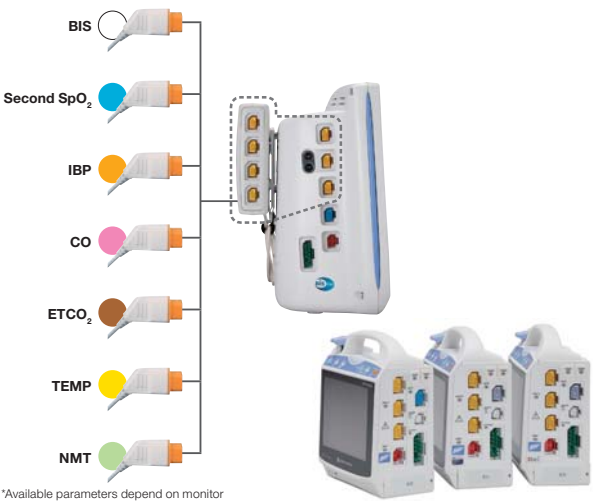
Options
Hemodynamic unit (PiCCO, ProAQT, CeVOX), Multigas, FLOW/Paw, EEG, esCCO, iNIBP

Other features
- 12-lead ECG analysis
- 72-hour, 5 waveforms full disclosure
- Battery operation

Smart Cable Systems - new modular technology

Smart Cable technology miniaturizes circuits found in traditional modules and embeds that circuitry into the cable.

When you plug a Smart Cable into a MULTI connector, it automatically detects the type of parameter and starts measuring.



*Available parameters depend on monitor

Bedside Monitors

Peace of mind monitoring

Vismo

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

10.4-inch color TFT LCD touch screen

Number of waveforms
PVM-4763/4753/4733: 6
PVM-4761/4751/4731: 4

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO_2 (Nihon Kohden, Nellcor, Masimo), TEMP

MULTI connector parameters (PVM-4763/4753/4733 only)
IBP, CO_2

Option
esCCO

Other features
- Illustrated tutorial guide

CO_2 Monitor

cap-TEN

OLG-3800

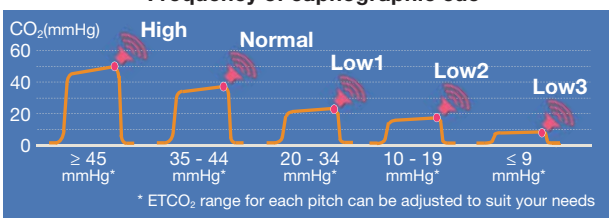
7-inch color TFT LCD touch screen

- $ETCO_2$, RESP, SpO_2*, Pulse rate*
- Audible cue function for appropriate manual ventilation (Refer to page 28)
- 120-hour trend graphs/ Tabular Trend/Full disclosure
- Alarm function
- AC or 5-hour battery operation

*Options

$ETCO_2$ Audible Cue

Frequency of capnographic cue



Vital Signs Monitors

Smart workflow to improve patient outcomes

SVM-7160/7130
SVM-7260/7250/7230

8-inch color TFT LCD touch screen

Number of waveforms : 1

Basic parameters
NIBP (iNIBP), TEMP, SpO_2 (SVM-7160/7130: Nihon Kohden, Masimo SVM-7260/7250/7230: Nihon Kohden, Nellcor, Masimo)

Smart workflow

- Easy to admit by using a barcode reader to obtain patient data by HL7
- Immediate notification by individual alert function
- Flexible 16 preset EWS
- Transferring data to EMR simply via WLAN

Multi-function and purpose

- On-screen tutorial guides for accurate monitoring
- Can switch to continuous monitor mode in case of need
- Glasgow Coma Scale for assessment of a patient's consciousness level
- EWS history can be reviewed in a chart

Ventilators

Treasure Every Breath®

NKV-550

- Adult, pediatric and neonatal
- Comprehensive modes and breath types
- Invasive ventilation, non-invasive ventilation, and high flow oxygen therapy
- Gentle Lung® package for lung protection applications
- Protective Control® for contagious disease and radiologic procedure applications
- Airway care apps (inline and open airway suction app's)
- Built-in SpO_2 and CO_2 monitors
- Nihon Kohden connectivity (bedside and central monitoring

Seamless Care: Every Patient, Every Breath

Second User Interface

DSP5500A	17” Second Graphic User Interface (GUI)
CBL5522A	Second GUI Cable, 30 ft. (9 m)

Accessories

MNT5504A	Tabletop stand for the Second GUI Adjustable for pan, tilt, and height Base: 13 in (33 cm) W x 10.2 in (26 cm) D Height: 9.5 in (24.1 cm) w/o GUI5.2 lb (2.4 kg)
CRT5552A	Rolling Trolley for the Second GUI Base: 20.3 in (51.5 cm) W x 20.3 in (51.5 cm) D Height: 48.3 in (122.6 cm) H37.5 lbs (17 kg)100 mm wheels

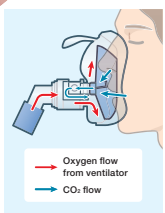
NKV-330

- Multiple non-invasive ventilation modes including PC, PRVC, PS and S/T
- High flow oxygen therapy
- Intuitive interface
- Continuous CO_2 and SpO_2 monitoring
- 72 hours full disclosure waveforms, alarm and operation logs, patient measurements
- Easily viewable ventilator alarm
- Superior Transportability: one action to detach from the cart
- 'Hot swap' main battery to ensure continuous operation
- Dual HEPA filter protection

NPPV mask

- Designed to fit any facial shape with minimal patient disconform and skin damage
- CO_2 monitoring during NPPV therapy with the combination of cap-ONE, Nihon Kohden's new class of ultra-compact CO_2 sensor
- Adjustable forehead cushion support arm

cap-ONE mask



Electrocardiographs

cardiofax V

ECG-2450

- 12 or 15 channels
- 210 mm paper
- On screen guide and lead check function
- DICOM/PDF output
- Synthesized 18-lead ECG (option)
- Stress test (option)
- Signal Average ECG (option)
- 12-inch backlit color display, touch screen

cardiofax M

ECG-3350

- 12 channels
- 210 mm paper
- 8-inch backlit color LCD
- Flexible display Synthsized 18-lead ECG (option)
- DICOM/PDF output
- Web Server function

cardiofax S

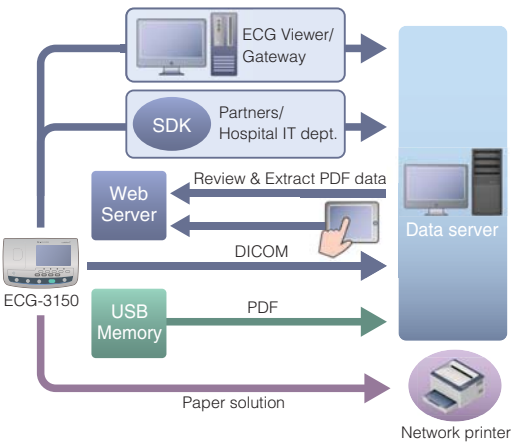
ECG-2250

- 6 channels
- 110 mm paper
- 7-inch backlit color LCD
- DICOM/PDF output

cardiofax C

ECG-3150

- 3 channels
- 63 mm paper
- 5-inch color TFT
- DICOM/PDF output
- Web Server realizes simple ECG viewer on your PC/tablet/smartphone



Electrocardiographs

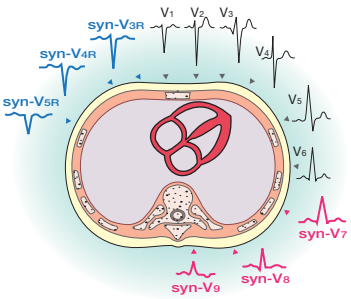
Synthesized 18-lead ECG

What is Synthesized 18-lead ECG?

The most common ECG exam is the standard 12-lead ECG. It is simple to measure, has low burden on the body, and observing the heart from these 12 directions provides a lot of information which has a wide range of clinical applications.

However, some areas, especially pathological change in the right ventricle and the posterior wall cannot be observed from the 12-lead ECG.

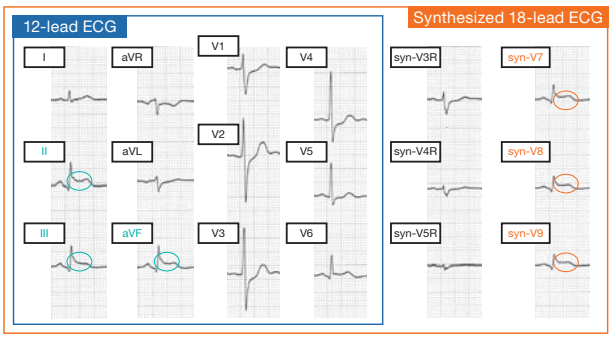
In order to actually measure the right chest (V3R, V4R, V5R) and back (V7, V8, V9) areas, it is necessary to use different electrode positions than the standard 12-lead ECG. In particular, electrodes must also be attached to the patient's back so that normal suction cup electrodes cannot be used. Also, the patient must be turned over in some cases and in an emergency it is often difficult to use back electrodes. This complicates the exam procedure.



Synthesized right side leads (V3R – V5R) and synthesized back leads (V7 – V9) are added

Synthesized 18-lead ECG uses the 12-lead ECG waveforms to mathematically derive the waveforms of the right chest leads (V3R, V4R, V5R) and back leads (V7, V8, V9).

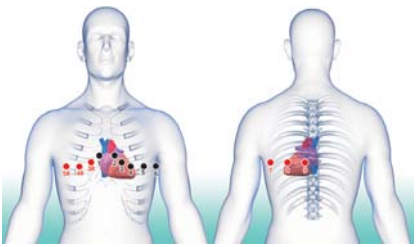
The measurement procedure is the same as the standard 12-lead ECG but more information can be obtained. 18-lead synthesized ECG is expected to be useful in detecting right side and posterior infarction.



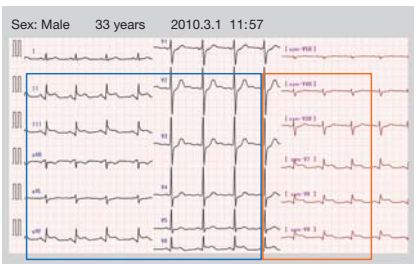
synECi 18
Synthesized Electrocardiogram

Principle of synthesized waveforms

Instantaneous cardioelectric vectors are continuously measured from the standard 12-lead ECG data and ECG of the right leads (V3R, V4R, V5R) and back leads (V7, V8, V9) is synthesized from this data.

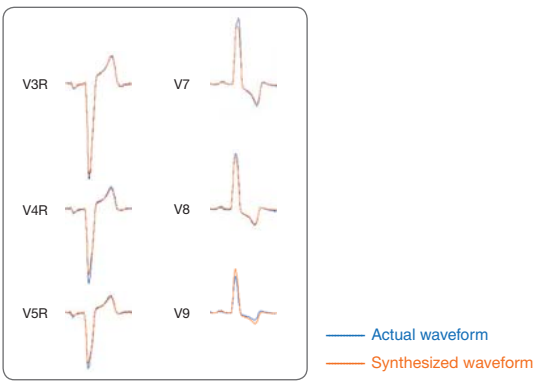


Instantaneous cardioelectric vectors are continuously calculated from actual leads.



Right leads (V3R - V5R) and back leads (V7 - V9) are synthesized from the cardioelectric vector data.

The following example shows actually measured waveforms and synthesized waveforms. Other data also has good correlation with actually measured ECG. This suggests that we can obtain useful information which corresponds to the condition of the heart.



Defibrillators

cardiolife

TEC-5621/5631

- 6.5-inch TFT LCD
- Smart Cable (Refer to page 16)
- SpO_2, CO_2, ECG, NIBP (iNIBP, refer to page 14)
- Artifact suppression pads, P-700
- Audible Cue function for appropriate manual ventilation
- CPR feedback

cardiolife

TEC-8321K, TEC-8322K, TEC-8332K
TEC-8342K, TEC-8352K

- 8.4-inch TFT LCD
- Smart Cable (Refer to page 16)
- SpO_2, CO_2, ECG, IBP, Temp, NIBP (8342K, 8352K)
- synECi synthesized 18-lead ECG (Refer to page 24-25)
- esCCO (Refer to page 16)
- 12-lead ECG data transmission

CPR assist

CPR-1100

Improve quality of resuscitation
See and hear, evaluate, and manage the quality of resuscitation

AIRWAY SCOPE

AWS-S200

Video intubation laryngoscope
Fast, safe, precise intubation with monitor screen verification

Transitioning Back to Life

Ensure quality of CPR

Early indicator for ROSC during CPR

Confirm tracheal tube position

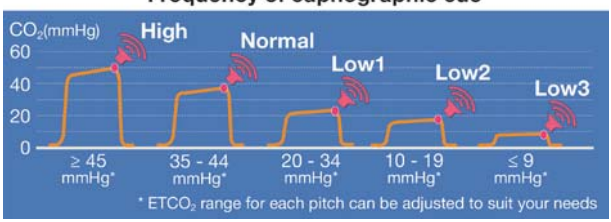
cardiolifeEMS

EMS-1052

- 6.5-inch color LCD with touch screen
- Smart cable (Refer to page 16)
- SpO_2, CO_2, ECG, IBP, Temp, NIBP (iNIBP, refer to page 14)
- synECi synthesized 18-lead ECG (Refer to page 24-25)
- esCCO (Refer to page 14)
- Data transmission for 12-lead ECG and other parameters
- Artifact suppression pads, P-700
- Audible Cue function for appropriate manual ventilation
- CPR feedback

Improve Manual Ventilation and CPR with $ETCO_2$ Audible Cue

Frequency of capnographic cue



$ETCO_2$ Audible Cue helps the caregiver manage $ETCO_2$ during manual ventilation and CPR by delivering 5 different, easily recognizable sounds to indicate 5 ranges from high to low $ETCO_2$. Audible Cue provides the caregiver with instant feedback about $ETCO_2$ level changes – without needing to look at the monitor.

Defibrillators

Options

CO_2/SpO_2/NIBP/CPR

- interface unit for SpO_2/CO_2 unit (QI-564V), for TEC-5600
- interface unit for SpO_2/CO_2/NIBP (QI-565V), for TEC-5600
- NIBP unit, SG-565V, for TEC-5600
  iNIBP available (Refer to page14)
- CPR assist, CPR-1100, for TEC-5600/EMS-1052

cap-ONE ORAL NASAL EXPIRATION

cap-ONE mask

- CO_2 sensor kit, TG-920P (P907)
- CO_2 sensor kit, TG-980P (P910A)
- Airway adapter
- Nasal/oral adapter
- CO_2 sensor kit oxygen mask (All above items: Refer to page 40)

- SpO_2 connection cord, JL-900P, 2.5 m (K931)
- Reusable SpO_2 probe, TL-201T2 (P225F)

Internal paddles for TEC-5600/8300

- Without switch
  (ND-863V/864V/865V/866V/867V)
- With switch
  (ND-893V/894V/895V/896V/897V)

Disposable pads

P-711

P-713

- Disposable pads
  for adult/pediatric, P-711 (H329)
  for infant, P-713 (H330)
- Disposable pads for X-ray,
  P-511X (H327A)
- Disposable pad adapter cable,
  JC-865V (K342B), 2m
  JC-165V, 1m

Other

- Defibrillator report viewer software for PC (QP-551VK)

- Battery charger
  (SB-551V), for TEC-5600
  (SB-801V), for TEC-8300
  (SB-101V), for EMS-1052

Take action, Save a life

Step 1. Open the lid

Step 2. Attach the pads to the patient

Step 3. Push the button

cardiolife AED

AED-3100

Options

- Carrying bag (YC-310V)
- Wall mount kit (KG-202V)
- Defibrillator report viewer software (QP-551VK)
- AED box (YZ-042H8)
- Rescue kit (YZ-043H3)

Consumables

- Battery pack (SB-310V)
- Defibrillation pads (P-740K)

cardiolife AED

AED-2152K
(with display and semi-auto mode)

Options

- Carrying bag (Y184A)
- Wall mount kit (KG-202V)
- Defibrillator report viewer software (QP-551VK)
- AED box (YZ-042H8)
- Battery Charger for SB-220V (SB-205V)

Consumables

- Battery pack (SB-212VK, SB-214VK)
- Rechargeable battery for AED-2152K (SB-220V)
- Defibrillation pads (P-740K)

Transfer patient to a Nihon Kohden defibrillator

The AED-2152K/3100 defibrillation pads can be connected to an EMS-1052 defibrillator and a TEC-5600/8300 series defibrillator with JC-165V or JC-865V (K342B). This lets you transfer the patient from the rescue site to the ambulance and hospital without removing the pads.

Electroencephalographs

Routine EEG

Neurofax

EEG-1200J/K

- 32-channel junction box with SpO_2/$ETCO_2$ connector
- Zooming function
- Voltage mapping
- Frequency mapping
- DSA trendgraph for a fast review
- EEG Portaview software
- NeuroWorkbench software for data management
- Syncronized video image (resolution adjustable up to Full HD)

Portable EEG

Neurofax μ

EEG-9100J/K

- 32-channel junction box with SpO_2/$ETCO_2$ connector
- Zooming function
- Voltage mapping
- DSA trendgraph
- EEG Portaview software
- NeuroWorkbench software for data management

Epilepsy Monitoring

Neurofax

EEG-1200J/K with JE-120A

- 256, 192, 128 or 64-channel junction box
- 10 KHz sampling rate
- LAN connectivity by QI-123A (IP addressable)
- EEG report software
- Zooming function
- Voltage mapping
- Frequency mapping
- DSA trendgraph for a fast review
- EEG auto editor for a fast clipping
- Slide show function for conference
- EEG scope for look back
- Full HD video synchronized with EEG waveforms (option)
- Heart rate, SpO_2, $ETCO_2$ for vital sign monitoring (option)
- Neuro Portaview can transfer data by CD-R
- NeuroWorkbench software for data management

Functional brain mapping test

PE-210AK + MS-120BK with JE-120A

- Sophisticated software control for functional brain mapping test
- Electrode position map with brain images
- Online quick report generation
- Alternative, Biphasic stimulation with MS-120BK

Electroencephalographs

ICU/ NICU aEEG Monitoring

Neurofax

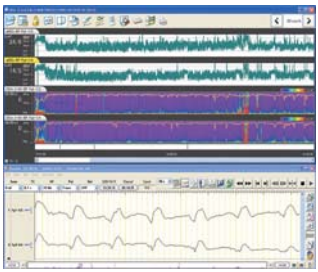
EEG-1250

Save lives with aEEG monitoring in the ICU/NICU

- Space-saving design EEG
- 32-channel junction box with SpO_2 / $ETCO_2$ connector
- aEEG monitoring with QP-160AK software (option)
- Shielded electrodes (option)
- Synchronized digital video with QP-110AK (option)
- Remote monitoring with NeuroWorkbench

QP-160AK EEG trend program

EEG trend monitoring program is designed to monitor long term EEG trends at ICU/ NICU.



- aEEG
- DSA (Density Spectral Array)
- DSA asymmetry
- FFT power
- FFT asymmetry
- FFT power ratio
- Burst suppression ratio
- Burst per minute
- Inter burst interval

The importance of monitoring EEG in ICU/NICU has been increasing. Seizure detection program is to assist the identification of electrographic seizure for adults and neonate.

- QL-161AK Seizure detection program (Adult)
- QL-162AK Seizure detection program (Neonatal) *between 37 and 42 weeks

EEG head set

CerebAir

AE-120A

Quick and simple EEG monitoring for ER/ICU

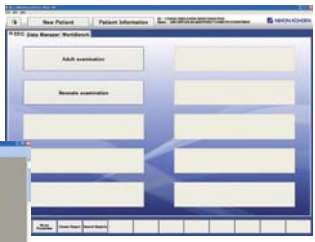
- Fixed electrode position
- Disposable electrode with refilled gel
- No skin preparation needed
- User friendly software guides
- Wireless transmittion using Bluetooth
- Noise-robust

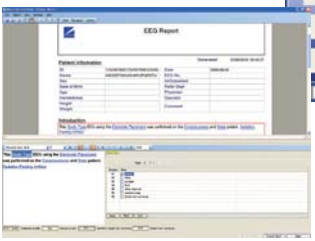
*Use with EEG-1200/1250/9100

Standard Software

NeuroWorkbench

- Scheduling
- Patient database
- EEG reports





NeuroReport

- Create customised report
- Export reports as PDF

Optional Software

Digital Video Software (QP-110AK)

Synchronized digital video for EEG systems

- Precise synchronized patient image with EEG waveforms
- IP camera connectivity for up to Full HD (1,920x1,080) resolution with software PTZ (Pan, Tilt, Zoom) control
- Video data management by NeuroWorkbench database

Wireless Input Unit

aireeg

WEE-1200

Wireless gives freedom

- Comfortable, wearable transmitter
- Simple operation
- Seamless data acquisition
- Long battery operation
- Wide range of wireless channel options
- 32/64 channel model

*Use with EEG-1200/1250

EP/EMG Measuring Systems

Routine EP/EMG

Neuropack X1

MEB-2300K

- 6 or 12-channel junction box with head montage
- 18 bit A/D conversion rate for smooth waveform
- Integrated NCS & NCS2 menu (MCS, SCS, F-wave)
- EMG, EMG2, QEMG, SFEMG
- Reflex study (Blink, H-reflex)
- Auditory Evoked Potential (ABR, MIR, SVR, VEMP)
- Visual Evoked Potential (Pattern, Goggle, Flash, ERG, EOG)
- Somatory Evoked Potential (SEP)

Optional Software

Trend monitoring software

- IOM (Intraoperative Monitoring)
- EP/CSA, EP/DSA, CSA/DSA, Multi-trend

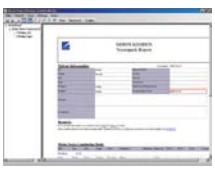
Event related potentials software

- P300
- MRCP (Movement Related Cortical Potential)
- CNV (Contingent Negative Variation)

Autonomic nervous system test software

- Micro-N (Microneurography)
- SSR (Sympathetic Skin Response)
- R-R interval analysis

Standard Software



NeuroReport

- Create customized reports
- Save reports as PDF

NeuroNavi

- On-screen guide to examination procedures

Routine, Portable EP/EMG

Neuropack S3

MEB-9600K

- 2 or 4-channel junction box
- 18bit A/D coversion rate for smooth waveform
- Laptop model can be fit into hand-carry luggage
- Angle adjustable stimulator RY-960B (Option)
- Function keys and numeric keys are on the main unit for faster operation
- NeuroNavi (On-screen examination guide)
- NeuroReport for customized report

- Select only necessary program

QL-971BK	Somatosensory Evoked Potential
QL-972BK	Auditory Evoked Potential
QL-973BK	Visual Evoked Potential
QL-974BK	EMG examination
QL-975BK	Nerve Conduction
QL-977BK	Single Fiber and macro EMG
QL-978BK	Autonomic Nervous system
QL-979BK	Event related potential

Intraoperative Monitoring System

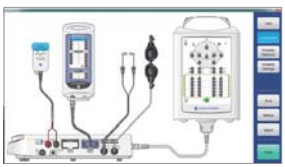
Neuromaster G1

MEE-2000

- Flexible and multimodality monitoring is available, including SEP/TcMEP/ABR/Auditory nerve function, Facial nerve mapping and spontaneous EMG
- Choice of Panel PC and Laptop PC
- Selection from 16 channels or 32 channels
- Up to 4 Breakout boxes with 16 inputs
- Up to 4 daisy chain stimulation pod
- In-built High current/High voltage stimulator
- ESU detection probe to mute the sound
- Remote access from review station

JB-916B Amp unit

- 16 channels (Evoked Potential 4 channel, EMG 12 channels)
- Head montage image on the junction box for easy connection
- Preset condition for quick setting (Neurosurgery, Orthopedic, Cardiovascular)
- Stimulators connection guide with illustration



Sleep Study

Sleep Study

PSG-1100

- Full 10-20 recording capability with PSG channels
- 100 MΩ input impedance
- Internal pressure transducer
- Internal SpO_2
- Internal $ETCO_2$ with exclusive cap-ONE technology (option)
- Dedicated EKG reference
- Internal memory
- IP addressable

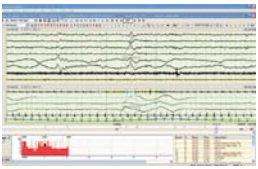
PMU800
(Home sleep testing device)

- Thermistor airflow
- Pressure airflow
- Snore sensor
- 2 respiratory effort
- Built-in body position sensor
- Built-in SpO_2
- 2 PLM leg movement

Polysmith Software

Polysmith sleep systems
Polysmith software is used in a variety of sleep lab environments and provides a comprehensive approach to studying your patients. From easy to use scoring and recording tools to convenient remote access solutions, Polysmith allows you to work with your entire lab's data from the convenience of the control room.

Diagnostics are the specialty of your sleep lab. These features help technologists manage their patients and data easily.



- Live trending of multiple parameters
- Selectable video and audio quality
- On-line scoring and editing
- On-line AHI and sleep time
- Remote viewing of live data
- Auto append
- Automatic MSLT timer and recording tool
- Off-line video monitoring

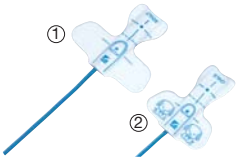
In the ever changing sleep medicine environment, the only constant is the need for quick and efficient data scoring and processing.
– Polysmith offers the following features:

- Automated analysis
- Manual scoring and editing of data
- Custom montages
- Single click editing
- Auto updating of patient information
- Auto record tracking
- LTM tool for use with LTM EEG or EMU file
- Configurable keyboard and mouse key
- Edit scoring from trend plots

Report generator view

SpO_2 Probes, single-patient use

BluPRO

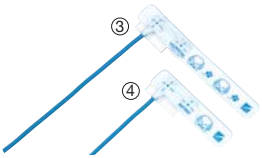


① Adult finger/toe, TL-271T
(P203A/P203E)

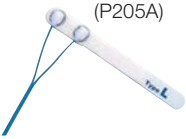
② Child finger/toe, TL-272T
(P203B/P203F)

③ Neonate instep, TL-273T
(P203C/P203G)

④ Infant finger/toe, TL-274T
(P203D/P203H)



Premature baby, for premature's skin, TL-260T
(P205A)



Tape S
(P260E)

Tape L
(P260F)

Ear clip
(P256)

Neonates and preterm infants, for premature's skin,TL-535U
(P206)

Attachment tape for TL-535U,
⑤ Tape S, YS-102P0 (P264A)
⑥ Tape L, YS-102P1 (P264B)

NIBP Cuffs

Yawara(kai) means "soft to the touch"

YAWARA CUFF 2, YP-710 Series
S951A infant, 5 cm
S951B child, 7 cm
S951C adult, 10 cm
S951D adult, 13 cm
S951E adult, 16 cm
S951F thigh, 19 cm

SpO_2 Probes, reusable

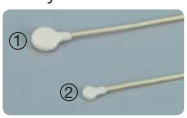
Finger,
TL-201T (P225F)

Multi-site
TL-220T (P225G)

Finger-tip, regular
TL-631T3 (P311C)
Finger-tip, large
TL-630T3 (P310C)

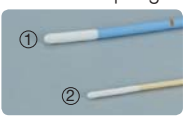
Temp Probes

Body surface



①Adult TT-481T
②Child/Neonate
TT-480T

Rectum/Esophagus



①Adult TT-411T
②Child/Neonate
TT-410T

Probe cover / Heat insulation cover

Body surface

Child/Neonate
YT-410T

Adult/Child/
Neonate
YT-480T

Rectum/Esophagus

Adult YT-411T

Disposable cuff for neonate, YP-840 Series

S954A 5 cm
S954B 7 cm
S954C 10 cm
S954D 13 cm
S954E 16 cm
S954F 19 cm

CO_2 Sensors

cap-ONE
ORAL NASAL EXPIRATION

Both intubated and non-intubated patients

cap-ONE, an ultra compact and highly durable sensor, will change your image of main stream CO_2 sensors being easy to break. cap-ONE provides accurate and stable CO_2 monitoring for both intubated and non-intubated patients.

cap-ONE mask

Ensure quality of care during sedation

cap-ONE mask is an originally designed open face oxygen mask for patients who are receiving supplemental oxygen. The combination of cap-ONE (TG-980P) and cap-ONE mask reliably detects respiratory depression and avoid serious complications in all care levels.

CO2 sensor kit cap-ONE ORAL NASAL EXPIRATION

CO_2 sensor kit, TG-980P (P910A)
with MULTI connector

CO_2 sensor kit, TG-920P (P907)
with MULTI connector

TG-921T3 (P908)
with mini DIN connector

Use with TG-980P

Airway adapter,
① YG-211T (R805) adult
② YG-213T (R806) neonate/infant
③ YG-214T (R807) neonate/infant with flow sensor

Nasal adapter
④ YG-220T adult
⑤ YG-221T adult with oxygen tube
⑥ YG-230T pediatric
⑦ YG-231T pediatric with oxygen tube

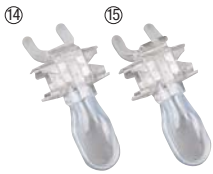
CO_2 sensor kit oxygen mask,
⑧ YG-242T (V935) infant
⑨ YG-232T (V933) pediatric
⑩ YG-272T (V938A) adult
⑪ YG-282T (V938C) adult, large

cap-ONE mask

Adult cap-ONE biteblock
⑫ YG-227T (V939A)

Use with TG-920P/TG-921T3

Airway adapter,
⑬ YG-111T (R804)



Nasal/oral adapter,
⑭ YG-121T (V922)
⑮ YG-122T (V923)

Nasal/oral adapter,
(for PSG measurement)
⑯ YG-125T (V928) adult
⑰ YG-135T (V929) child

Disposable Electrodes

Vitrode L **general use**

L-150X (G207) radiolucent
35 mm dia, 150 pcs

Vitrode F **less irritation**

Adult, low irritation,
F-150M (G210D)
25 x 45 mm, 150 pcs

Neonate to child, low irritation,
F-150S (G210C)
19 x 36 mm, 150 pcs

Vitrode M

Adult, exercise test,
M-150 (G236)
40 mm dia, 150 pcs

Disposable Electrodes, prewired

Vitrode V

Adult/Child
25 x 45 mm
3/4/6-lead type available

Infant/Neonate
V-120S3 (G271A)
20 x 20 mm
3 x 40 packs

DIN

Paste and Gel

Elefix V

Paste for EEG
ZV-181E10, 180g x 10 tubes
ZV-181E02, 180g x 2 tubes

ZV-401E03, 400g x 3 jars

skinPure

Skin preparation gel,
YZ-0019 (F020)
135g x 2 tubes

cardioCream

Paste for ECG,
Z-101BC (F010)
100g x 2 tubes

Gelaid

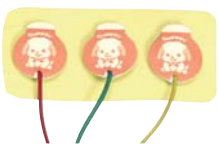
Paste for defibrillation,
Z-101BA (F015A)
100g x 2 tubes

Please use the paste/ gel that best suits your application

- Elefix V – For EEG
- cardioCream – For ECG
- Gelaid – For defibrillation
- skinPure – For lowering the impedance

Vitrode N

NICU
N-03IS3 (G300A)
14 x 25 mm
3 x 10 packs



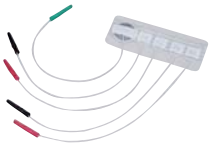
NICU
N-01IS3 (G300D)
15 mm dia
3 x 10 packs

Accessories and Consumables

NCS Disposable Electrodes

NM-317Y3 (H690)
2 recording electrodes and
1 ground electrode

NM-319Y (H691)
4 recording electrodes



NM-316Y (H692)
4 recording electrodes
and 1 ground electrode

NM-314YS (H694A)
4MEP/SEP electrodes

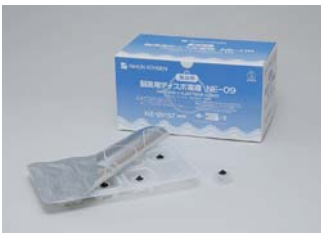
NM-310Y (H693)
1 large ground electrode

Disposable Electrodes for aEEG

NE-05IS3 (H544A)
5 leads, 0.6 m
5 x 5 packs

BM-120A (K640)
2.1 m

Disposable Electrode for Neuromonitoring



NE-091S7 (H548A)
7 pcs × 6 packs / box

NE-090S1 (H548B)
1 pcs × 6 packs / box

NE-118A (H503E)
Red (3 pcs),
white (3 pcs) / pack

ECG Reusable Chest Electrodes

Child

Order Code	Type	Qty	Tip size
H042D	Bear	3	3 mm
H044B	Bear	3	4 mm

Adult

Order Code	Qty	Tip size
H041A (-)	3	3 mm
H043A (-)	3	4 mm

Suction rubber

Order Code	Qty
H049 (-)	3

Accessories and Consumables

for NKV-330

Patient circuit set


VB-310Z


VB-311Z


VB-312Z


VB-313Z

Order Code	Breathing System	Water Trap	Water Chamber	Exhalation Port w/Pressure table	Qty
VB-310Z	With heated wire	None	✓	✓	(10sets/box)
VB-311Z	No heated wire	✓	✓	✓	(10sets/box)
VB-312Z	No heated wire	None	None	✓	(10sets/box)
VB-313Z	With heated wire	None	✓	None	(10sets/box)

Patient circuit part

Exhalation port

Code (Model)	Qty	Usage
VA-300Z	30pcs/box	Single-use

Breathing circuit filter

Code (Model)	Qty	Usage
VA-301Z	30pcs/box	Single-use

Humidification chamber

Code (Model)	Qty	Usage
VA-302Z	20pcs/box	Single-use

Single-use flow sensor

Code (Model)	Qty	Usage
TF-300Z	6pcs/box	Single-use

NPPV Mask



Order Code	Hose Type	Qty
VM-310Z	NPPV Full Face Mask Set L	1set
VM-311Z	NPPV Full Face Mask Set M	1set
VM-312Z	NPPV Full Face Mask Set S	1set
VM-313Z	NPPV Full Face Mask Set XS	1set
VM-330Z	NPPV cap-ONE Mask Set L	1set
VM-331Z	NPPV cap-ONE Mask Set M	1set
VM-332Z	NPPV cap-ONE Mask Set S	1set
VM-333Z	NPPV cap-ONE Mask Set XS	1set
VA-310Z	full face mask cushion L	10pcs/box
VA-311Z	full face mask cushion M	10pcs/box
VA-312Z	full face mask cushion S	10pcs/box
VA-313Z	full face mask cushion XS	10pcs/box
VA-330Z	cap-ONE mask cushion L	10pcs/box
VA-331Z	cap-ONE mask cushion M	10pcs/box
VA-332Z	cap-ONE mask cushion S	10pcs/box
VA-333Z	cap-ONE mask cushion XS	10pcs/box
VA-380Z	NPPV mask frame	1pc
VA-381Z	NPPV Mask Headgear	1pc

Oxygen sensor

Order Code	Qty
YS-119P5	1pc

Order Code	Qty
YS-119P4	1pc

Hematology Analyzers

Celltac G+

MEK-9200

- 5-part differential model
- 31 reportable parameters including reticulocyte (RET) parameters
- 8 research parameters
- Re-measurement function
- Maximum 90 samples per hour for DIFF measurement
- Maximum 55 samples per hour for RET measurement
- Continuous loading of samples via rack fed system up to 7 racks of 10 tubes
- STAT/manual sample analysis
- Integrated validation station with touch screen

Celltac G

MEK-9100

- 5-part differential model
- 24 reportable parameters
- 9 research parameters
- Up to 90 samples per hour
- Continuous loading of samples via rack fed system up to 7 racks of 10 tubes
- STAT/manual sample analysis
- Integrated validation station with touch screen
- Reagent and controls management with barcode
- Smart ColoRac Match system

Celltac Es

MEK-7300K

- 5-part differential model
- 23 reportable parameters
- 2 research parameters
- 10.4-inch TFT-LCD
- Open/Closed/Pre-dilution/WBC high/WBC low/Capillary
- Advanced count for low PLT or WBC

Celltac α+

MEK-1305

- 3-part differential with ESR model
- ESR results come in around 2 min.
- 22 reportable parameters including ESR
- 10 research parameters including NLR
- Open mode only
- 60 samples/hour
- 50,000 internal data capacity

Celltac α

MEK-1302
(open and closed mode)

MEK-1301/1302

- 3-part differential model
- 20 reportable parameters
- 4 research parameters including NLR
- Open mode only (MEK-1301)
- One and Closed mode (MEK-1302)
- 60 samples/hour
- 50,000 internal data capacity

Celltac α

MEK-6550

Veterinary use

- 3-part differential model for dog, cat, cow and horse
- 21 parameters: dog, cat, cow, horse
- 13 parameters: rat, mouse, other animals
- Optimum Threshold Search is available for custom animal types.

Hematology Analyzers

Hematology Reagents

Nihon Kohden has several reagent factories in the world. Quality is managed by each factory under ISO13485 . Only volume and packaging are different based on the local requirements.

Isotonac 3

MEK-640

Isotonac is a name of diluents which is mainly used to dilute whole blood samples. A special barcode label is attached to each reagent packaging to ensure that customers use legitimate products.

Hemolynac 310

MK-310W

Hemolynac 510

MK-510W

Hemolynac is a name of hemolytic reagents. “310” is for 3-part. diff. and “510” is for 5-part. diff.

Cleanac 710

MK-710W

Cleanac 810

MK-810W

Cleanac is a name of cleaning reagents. “810” is for strong protein cleaning.

Reticulonac

MK-110W

Reticulonac is a staining reagent and used for reticulocyte counting. It stains cells and generates fluorescence excited by a blue laser.

Hematology Control/Calibrator

Calibrator

(Made in US)

MEK-CAL

Calibrator is used at the installation and a maintenance phase to calibrate our hematology analyzers.

QC controls

MEK-5DL/5DN/5DH

QC controls are used to check if our hematology analyzers have sufficient performance before or after clinical testing. 3 levels are prepared for each control type.

CRP/HbA1c reagents

Reagent cartridge

CR-420W

We produce 2 types of reagent cartridges. One is for CRP, and another is for HbA1c. The cartridge is disposal to avoid contamination.

QR code

Cartridges of
CR-420W and HA-420W

To avoid misuse and keep good quality of results, each cartridge has QR code having information of parameter type, lot#, expiry, and calibration curve.

This brochure may be revised or replaced by Nihon Kohden at any time without notice.
Some products may not be available in your country.
Contact your Nihon Kohden representative for details.

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