CelltacEs

Automated Hematology Analyzer

Leading the way into 5-part-diff

Reliable and accurate

Advanced Count

Fighting Disease with Electronics

Celltac Es

Automated Hematology Analyzer

MEK-7300K

Easy sampling and user friendly software

On screen guidance – extremely simple

The Nihon Kohden Celltac Es displays intruction guidelines on how to use the device directly on screen. Self-explaining menus will guide the user very friendly with stress-free operation.

Several dilution modes including capillary mode

The user can select from five different dilution modes: normal, pre-dilution, WBC high, WBC low and capillary. In the capillary mode only 10 µL of blood is necessary.

Each Celltac Es provides two built-in sampling modes: open and closed. The closed tube mode ensures safety to the user and avoids blood contact.

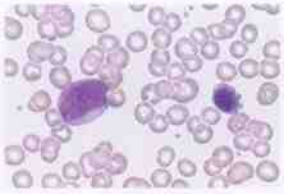
Analysis is running – you are perfectly equipped

Advanced Count – extremely reliable

Additional measurement can be performed without sampling additional blood when WBC or PLT are low. This unique feature ensures more reliable results in case of abnormal WBC or PLT counts.

Immature Granulocytes (IG)

The IG count is included in the complete CBC+Diff mode in absolute and relative value. The IG parameter is a good indicator of myeloid cell production which can result from inflammatory infection or severe haematological diseases.



Complete result – in only 60 seconds

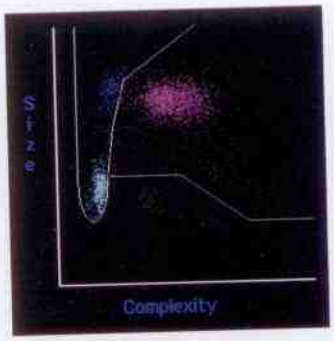
Unlimited patient memory

Besides the internal memory, a SD-Card slot at the back of the analyzer can be used to get unlimited storage of patient samples, QC results and alarm logs (2 GB can store 30.000 patient samples).

Usability at its best – large 10.4 inch touchscreen

Convince yourself how easy to use Celltac Es is. The large 10.4 inch color touchscreen provides best easy and friendly operation. You can access full patient result in one screen.

The results review is very flexible: the user can see all necessary information at a glance or focus on different areas like zooming into scattergrams, histograms, flags as well as values itself for details.



Scattergram

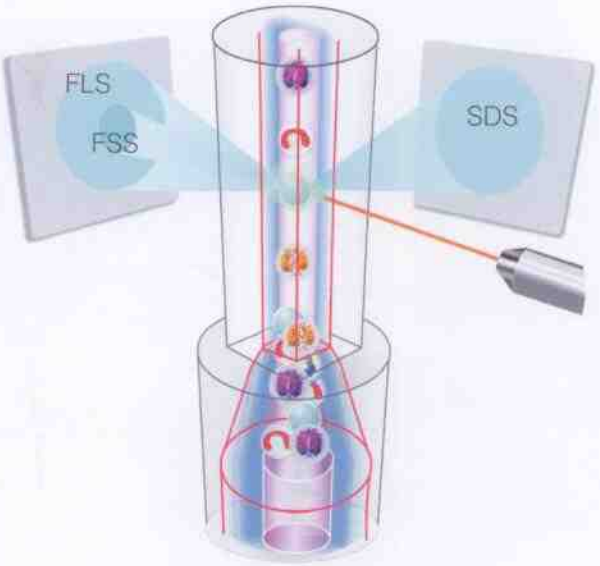
5-part-diff Technology – preserving WBCs in their original state

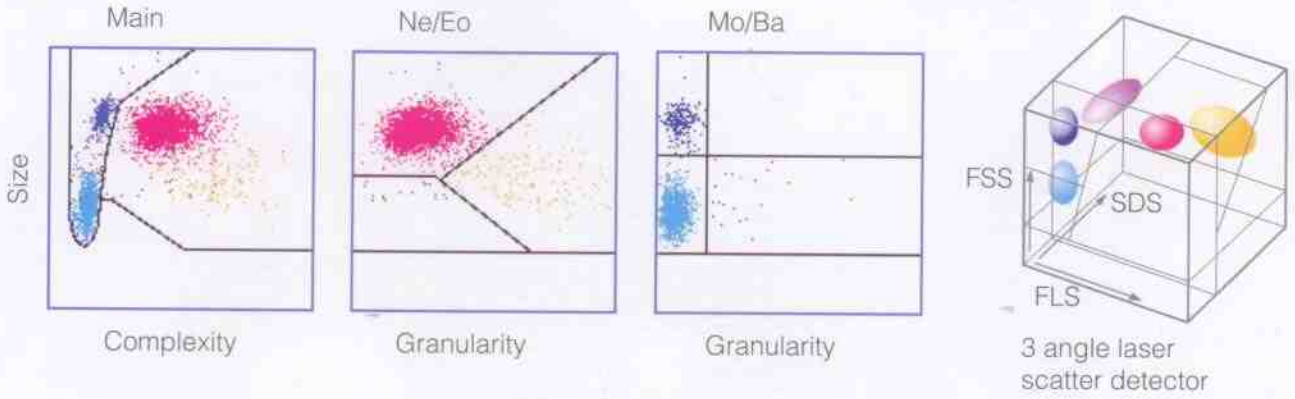
Patented laser technology

The innovative 3 angle scatter detector provides better detection of WBC cells using precise light scattering measurement.

From a small forward angle (FSS) we obtain WBC size information, from a large forward angle (FLS) we obtain information of cell structure and complexity of nucleo-chromatin particles, and from a side angle (SDS) we obtain internal granularity and globularity information.

This 3D graphic information is calculated by the exclusive Nihon Kohden software algorithm.





No chemical processing of WBC

The Nihon Kohden patented leukocyte classification reagent selectively hemolyzes the red blood cells while leaving the white blood cells intact. The nucleus, granules and cellularity are preserved in their original state. The cells are not altered by staining, shrinkage or differential lysis which can distort the measurement results. The Celltac Es can get morphological information from natural shaped WBC nuclei and granules and perform more accurate WBC 5 diff measurement.

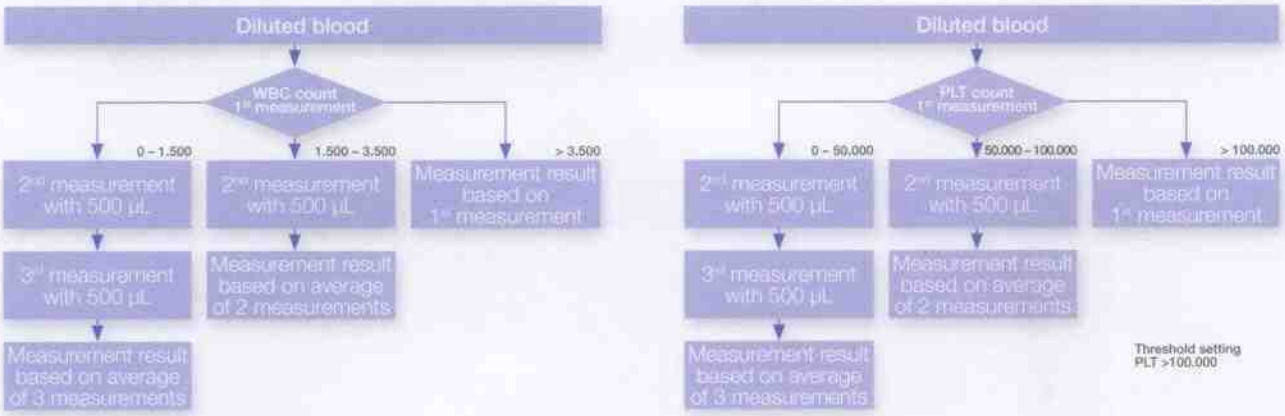
Single-channel measurement

Celltac 5-part differential measure each cell in one unique flow cytometer. This eliminates measurement errors using multiple channel methods.

Unique Advanced Count

High result precision

The Advanced Count is an exclusive feature of Nihon Kohden Celltac Es. The Advanced Count triggers automatically additional count without sampling new blood. The Advanced Count provides higher precision of the absolute WBC and PLT count by increasing the volume of diluted blood according to the number of cells obtained per microliter.



The threshold of Advanced Count can be set for PLT to four different settings: 50,000/µl, 100,000/µl, 150,000/µl and off. For WBC it can be set to on (< 3,500 /µl) and off.

CBC Technology – much more than Impedance

40 years of experience guarantees high quality standards

Nihon Kohden's quality guiding principle is based on a high degree of self-manufacturing performance. This allows controlling and directly influencing every process necessary to design high quality instruments.

Not just features, but real benefits

The Nihon Kohden Celltac analyzers give you real advantages:

- The twin diluting nozzle system prevents from cross contamination between RBC & WBC counting.
- The Nihon Kohden original syringe pumps do not need disassembly or cleaning. The Celltac Es uses exclusive solenoid valves - made by Nihon Kohden - rather than pinch valves. This contributes to extremely low cost and time saving maintenance.
- The Celltac Es offers an automatic clog removal, that removes blood proteins and dust particles from the aperture by a high voltage electrical pulse after each measurement.
- With the Nihon Kohden innovative fluid path, the sample remains in the sample needle; there is no need for rinsing a syringe pump. This contributes to a better precision and prevents from a carry-over.

Features and technical specifications

Features

Simultaneous 25 parameter measurement	Open and closed Tube mode	Automatic clog removal	Access restriction with password
Top Level accuracy and reproducibility	5 different dilution modes:	Automatic waste fluid treatment	Connection capability:
Easy touch screen operation	• Normal • WBC High	Data management	• RS232
Fast access buttons	• Capillary • WBC Low • Pre-dilution	Unlimited memory	• USB
Colour LCD touch screen	Automatic self-check	Variety of QC programs:	• Handy barcode reader
Easy maintenance	Automatic sampling	• Mean • $\overline{X}$-R • $\overline{X}$B	• Printer
Durable and robust technology	Automatic priming and cleaning	• CV calculation • L&J • $\overline{X}$D•CV	Single/double count mode
Compact design	Automatic sampling nozzle cleaning	Optional built-in printer	Recount mode
On screen guidance	Flag reports	Results zoom	Advanced Count

Technical Data (Please refer also to the tech data sheet)

Dimensions and Weight:

382 W x 465 D x 532 H (mm); 35 kg

Power Requirements:

110 to 240 V ± 10% AC, 50/60 Hz
Power consumption: 250 VA

Parameters:

• WBC	• NE%	• LY%	• MO%
• EO%	• BA%	• NE#	• LY#
• MO#	• EO#	• BA#	• RBC
• HGB	• HCT	• MCV	• MCH
• MCHC	• RDW-CV	• RDW-SD	• PLT
• PCT	• MPV	• PDW	• IG%
• IG#			

Throughput: 60 samples/hour

Specimen Volume:

- 55 µL (for CBC + 5-part-diff)
- 30 µL (for CBC only)

Reagents:

- Isotonac 4 (20L)
- Cleanac (5L)
- Cleanac 3 (1L)
- Hemolynac 3N (1L)
- Hemolynac 5 (1L)

Barcode format
The following formats with or without check digits are acceptable: Industrial 2 of 5, ITF, JAN/EAN/UPC, NW-7, CODE 39, CODE 93, CODE 128

Linearity and Reproducibility

WBC	0 to 299 x 10^3/µL	within 2.0 % CV
NE%	0 to 100%	within 5.0 % CV
LY%	0 to 100%	within 5.0 % CV
MO%	0 to 100%	within 12.0 % CV
EO%	0 to 100%	within 20.0 % CV
BA%	0 to 100%	within 30.0 % CV
NE	0 to 299 x 10^3/µL	—
LY	0 to 299 x 10^3/µL	—
MO	0 to 299 x 10^3/µL	—
EO	0 to 299 x 10^3/µL	—
BA	0 to 299 x 10^3/µL	—
RBC	0 to 14.9 x 10^6/µL	within 1.5 % CV
HGB	0 to 29.9 g/dL	within 1.5 % CV
HCT	0 to 99.9%	—
MCV	20.0 to 199.0 fL	within 1.0 % CV
MCH	10 to 50 pg	—
MCHC	10 to 50 g/dL	—
RDW-CV	0 to 50.0%	—
RDW-SD	0 to 199.0 fL	—
PLT	0 to 1490 x 10^3/µL	within 4.0 % CV
PCT	0 to 2.9%	—
MPV	0 to 20.0 fL	—
PDW	0 to 50.0% (in CV)	—

Environmental Conditions

Storage temperature: –20 to +60°C (–4 to +140°F)
Storage humidity: 10 to 95%
Storage atmospheric pressure: 700 to 1060 hPa
Operating temperature: 15 to 30°C (59 to 86°F)
Operating humidity: 30 to 85% (noncondensing)
Operating atmospheric pressure: 700 to 1060 hPa

Methods

RBC/PLT/WBC: Impedance
WBC population: Light scatter by laser
HGB: Photometry
MCV, MCH, MCHC:
Calculated from RBC, HGB, HCT
HCT: Calculated from RBC histogram
PCT: Calculated from PLT histogram
MPV: Calculated from PLT, PCT
RBC-CV: Calculated from RBC histogram
PDW: Calculated from PLT histogram

Electromagnetic Compatibility

IEC 61326-1: 2005
IEC 61326-2-6: 2005
EN 61326-1: 2006
EN 61326-2-6: 2006
CISPR11: 2003, Group 1, Class B
EN 55011: 2007, Group 1, Class B

Safety Standards Certification

For details please refer to the technical data sheet

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