

Celltac F

Hematology Analyzer MEK-8222J/K

22 parameters with WBC 5 part differential



Fighting Disease with Electronics

 **NIHON KOHDEN**

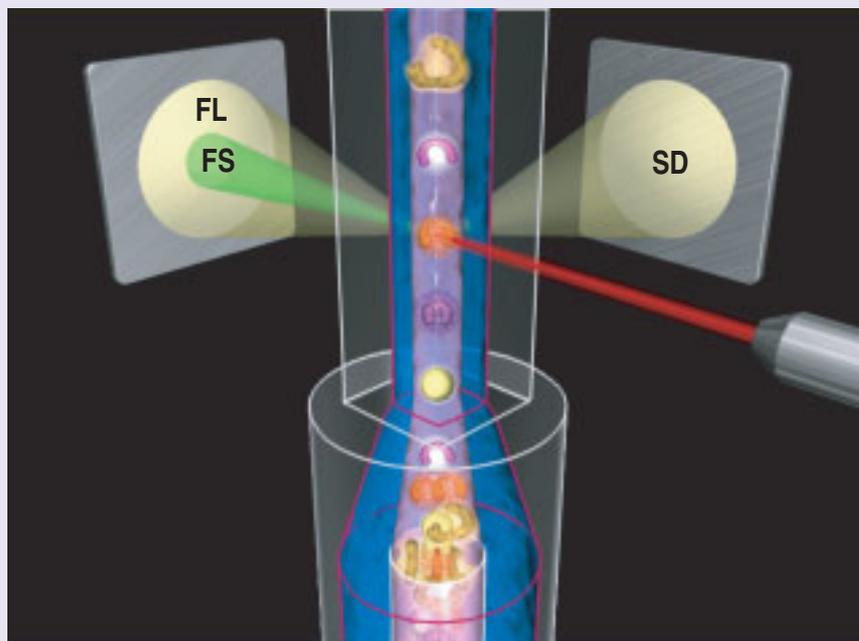
Contributes to effective total co

The Celltac F hematology analyzer with auto-sampler features high speed processing—80 samples per hour throughput—to support your effective lab operation!

- * High accuracy and high precision**
- * Low reagent consumption**
- * Simple operation**
- * High reliability**
- * Compact**

22 parameters

- White blood cell count
- Neutrophil percent
- Lymphocyte percent
- Monocyte percent
- Eosinophil percent
- Basophil percent
- Neutrophil count
- Lymphocyte count
- Monocyte count
- Eosinophil count
- Basophil count
- Red blood cell count
- Hemoglobin concentration
- Hematocrit
- Mean cell volume
- Mean cell hemoglobin
- Mean cell hemoglobin concentration
- Red blood cell distribution width
- Platelet count
- Platelet crit
- Mean platelet volume
- Platelet distribution width



Best management in your lab

Accuracy and high reproducibility

Nihon Kohden patented laser technology

An innovative 3 specific angle laser scatter detector provides better detection of scattered light from the WBC cell. From a small forward angle it obtains WBC size information, from a large forward angle it obtains information of cell structure and complexity of nucleo-chromatin particles, and from a side angle, it obtains internal granularity and globularity information. This 3D graphic information is calculated by a Nihon Kohden special software algorithm, and superior classification of WBC 5 part diff population is displayed on screen.

Clear classification of WBC 5 part diff population

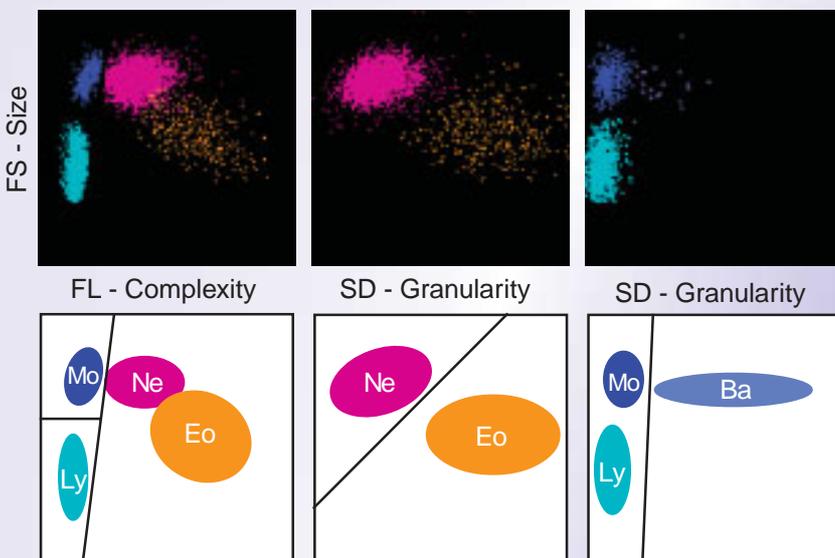
The patented leukocyte classification reagent is specially designed for use with the Nihon Kohden optical laser detection system. This reagent selectively hemolyzes the red blood cells while leaving the white blood cells intact. The nucleus, granules and cellularity remain intact so Celltac F can get information from natural shaped WBC nuclei and granules in laminar flow and perform more accurate WBC 5 part diff measurement.



Accuracy and high reproducibility for CBC counts

A consistent aspiration volume of diluted sample from the aperture is maintained by manometers so CBC measurement is stable and accurate. In Celltac F, the aspiration volume is not affected by fluctuation factors which may occur in instruments which use the time control method, such as delayed passage of blood cells through the aperture due to a dirty aperture or change of sample viscosity caused by temperature change.

High concentration samples, diluted 200:1 for WBC/Hgb and approx. 40,000:1 for RBC/Plt, are made in a mixing chamber which is combined with a CBC measurement aperture. The short fluid path allows utilization of the entire sample without waste, and the large volume of diluted sample allows high accuracy and reproducibility.



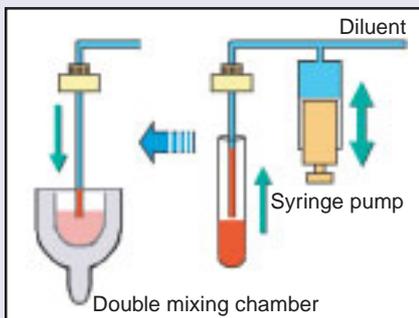
A Nihon Kohden original double mixing chamber, twin sample needle and sampling nozzle cleaning holder minimize contamination and allow high accuracy and reproducibility measurement.



The best choice for your lab

Low Reagent Consumption

A Nihon Kohden original syringe pump precisely aspirates the low sample volume of 28 μL for CBC, 55 μL for CBC + WBC 5 part diff. The sample remains in the sampling needle so that the sample does not need to be sent to the syringe pump. This allows a short fluid path for blood sample. Also, unlike shared valve method instruments, the syringe does not need to be rinsed after every dispensing. These features contribute to the small blood sample and low reagent consumption of



Nihon Kohden Celltac series hematology analyzers.

Simple Operation

High speed processing, 80 samples/hour throughput

In just 45 seconds, Celltac F can measure CBC or CBC + WBC 5 part diff for one sample. Its high speed measurement of 80 samples per hour with auto-sampler supports easy and efficient hematology testing in your lab. On the work list 8 or 22 parameter measurement can be set for individual samples in the rack. Selecting only the necessary parameters helps save reagent.

Fully automatic operation

Once the power switch is turned on, the fluid path is automatically primed and Celltac F is ready to use in a few minutes. When the power switch is turned off, the fluid path is automatically cleaned and the power shut off.

Closed mode and open sample mode

In closed sample mode, up to 50 samples can be set in the rack and all other operations are performed automatically. In open mode, samples can be measured individually.

Easy operation

Large switches for routine operations allow easy operation even in emergencies. Measurement conditions, data check and other settings are easily done by touch screen. With its fast and easy operation, even non-specialists can obtain perfect results. This is useful when hematology specialists are not available, such as the ER at night.

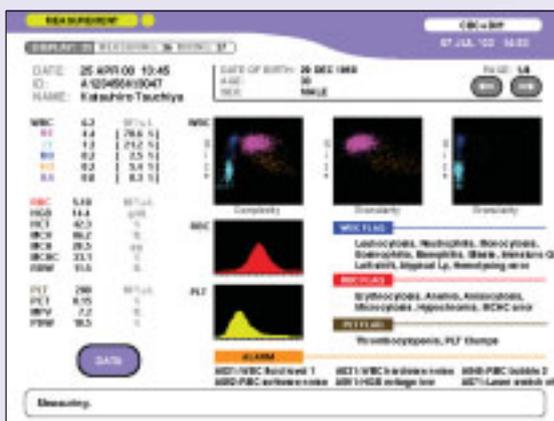
Local language

For easy operation, Celltac F can display in your local language. Contact your Nihon Kohden sales representative for detail.



Clear screen and intuitive operation by touch screen

Celltac F shows clear classification of WBC 5 part diff on a high resolution color TFT LCD. Measurement condition settings, scattergrams display, data editing and other operation is done by intuitive touch screen operation.



High WBC count mode

High WBC count (100,000 - 300,000/ μL) leukocytosis can be measured by automatic changing of the dilution ratio without pre-processing of the sample. No manual operation is necessary.

Capillary measurement

In capillary mode, CBC measurement can be done by a 10 or 20 μL sample. This is very useful for infant examination where venous blood is difficult to collect.

Two interrupt modes

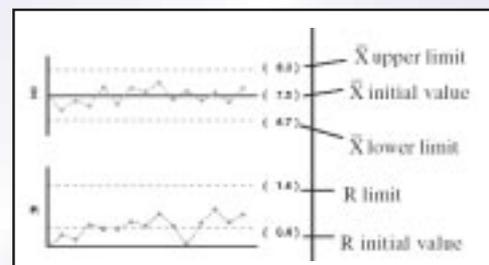
Emergency/routine interrupt measurement is available at any time during auto sampling measurement. Interrupt samples can be inserted in both closed sampling mode and open sampling mode. Up to 10 interrupt samples are available in closed sampling mode. This is useful when many emergency examinations are required.

High security

Settings by lab specialists such as calibration coefficient, normal range and QC data can be password protected so that other staff cannot change the settings. There are 3 levels of security administration so the Celltac F can be used securely even when lab specialists are not present.

QC programs

Celltac F provides 3 QC programs. Using high, low and normal blood control for WBC 5 diff, X bar R control for major parameters can be done. X bar batch control can be done by using fresh human blood. It automatically calculates daily average value and CV value of samples which are within normal range.



2 types of bar code readers (option)

The built-in bar code reader assures proper management of different patient samples in auto-sampling mode. A hand-held bar code reader is also available.

Useful flag messages

If the measurement result is above or below the threshold for an item, flag messages for WBC, RBC and Plt are displayed on the screen and can be printed.

Measurement by cyanide free reagent

Either cyanide-free hemolysing reagent, HEMOLYNAC-3N, or cyanmethemoglobin hemolysing reagent, HEMOLYNAC-3, can be used.

The best choice for your lab

High Reliability

Semiconductor laser optical unit with fresnel lens

Nihon Kohden laser optical technology with patented fresnel lens simplifies the optical path because the fresnel lens allows 2 angle laser scatter detection by one lens. The semiconductor laser has longer life than gas lasers and uses a halogen lamp. This contributes to long term reliable and stable WBC 5 part diff measurement.

Grease-free high reliability syringe pumps

The Celltac F syringe pumps do not need disassembly and periodic cleaning like shared valves on other instruments. The Nihon Kohden original syringe pumps also use a special seal which doesn't need greasing. This contributes to extremely cost saving maintenance.

Compact

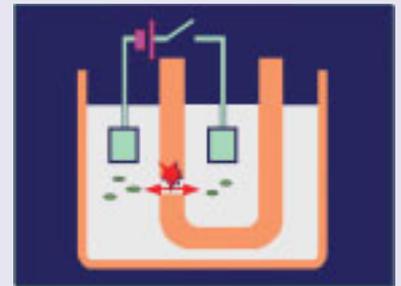
Unique and compact blood mixing system

A Nihon Kohden patented blood mixing system contributes to compact size of the Celltac F. The sample is effectively mixed in a narrow space by rotating the tube instead of tipping it end over end.

Computer controlled direction and rotation speed provides more effective blood mixing. The unique blood mixing method creates horizontal and vertical whirlpools of blood by alternating normal rotation and reverse rotation. Also, rotation speed is quickly changed so that blood samples are evenly mixed with no cell damage.

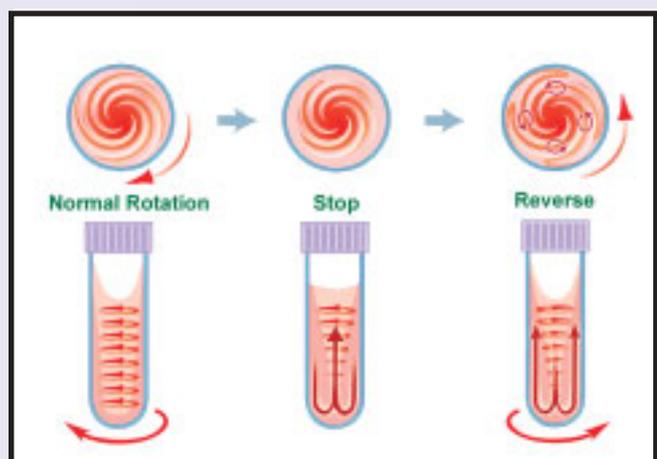
Automatic electric clog removal

To prevent clogging, Celltac F removes blood protein and dust particles from the aperture by a high voltage clog shattering electrical pulse after each measurement. If a clog occurs, the Celltac F automatically removes it and recounts the sample.



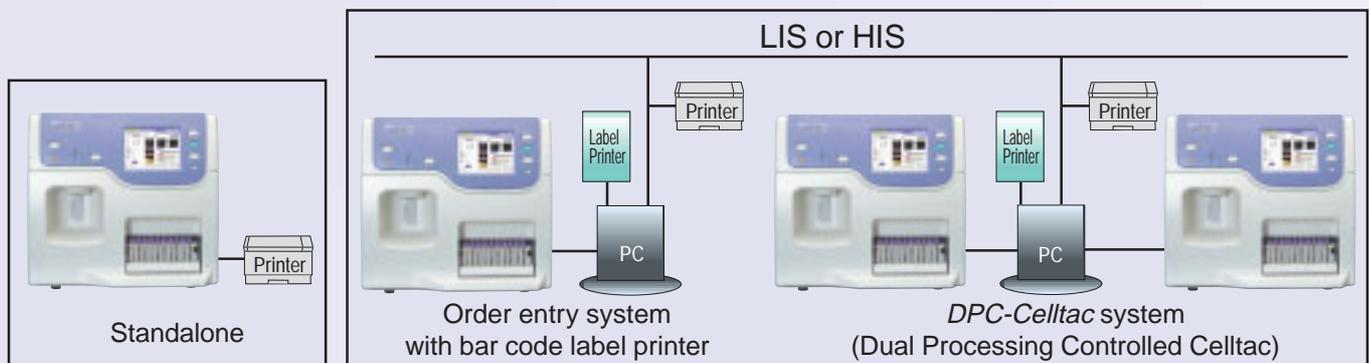
Highly Reliable Electromagnetic Valves

Celltac F mainly uses electromagnetic valves rather than pinch valves in the flow path valve because they are more reliable and need less frequent replacing.



Standalone and Networking

The all-in-one design Celltac F can be used alone or with a PC. If you connect it to a PC with optional Data Management Software, data can be stored on a server. Celltac F can also be connected to an LIS and HIS network system in your laboratory.



Data Management Software (option)

Optional Data Management Software adds the performance and the power of a PC.

High speed USB interface with PC

A USB interface allows high speed data transfer from Celltac F to a PC. Work lists entered on a PC can be transferred to Celltac F.

Displaying and printing of acquired data on a PC

Transferred data can be displayed on a spreadsheet in the PC. All displayed data included color scattergrams and histograms can be printed on a color printer connected to the PC.

Bar code label printing

Bar code labels for the work list can be printed on the optional thermal printer.

Gateway for LIS and HIS Network System

The PC can be used as a gateway to a Laboratory Information System or Hospital Information System.

Large data storage

Numerical data, scattergrams and histograms for each measurement can be saved on a PC and read anytime. Data can be saved on CD-R or other media for virtually unlimited storage.

160 samples throughput and low cost backup

A DPC-Celltac (Dual Process Controlled Celltac) system can control dual Celltac F's. This increases throughput to 160 samples per hour and is also useful as a low cost backup system in your lab.

Data searching

Stored data with flag information can be easily searched.

Options

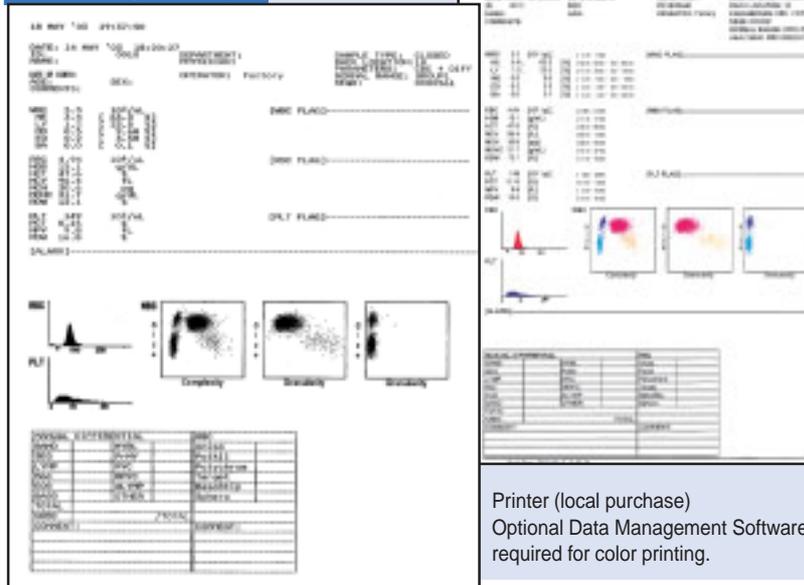


Thermal printer
WA-820V

Card printer, WA-460V

Impact printer, WA-711V

Recording example



Printer (local purchase)
Optional Data Management Software
required for color printing.



Bar code reader
ZK-821V
for auto sampler
measurement



Bar code reader
ZK-820V, for manual
measurement

Consumables



Diluent, ISOTONAC • 3,
18 L, T436D



Hemolyzing reagent,
HEMOLYNAC • 3, T489
500 mL x 3



Hemolyzing reagent,
HEMOLYNAC • 3N, T498
500 mL x 3, cyanide-free



Hemolyzing reagent,
HEMOLYNAC • 5, T496
500 mL x 3



Detergent, CLEANAC,
5L, T438



Detergent, CLEANAC • 3,
5 L, T438D



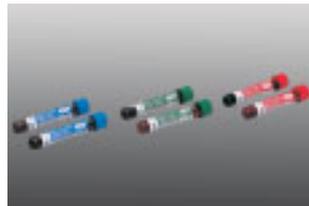
Sample tube,
100 pcs, T440A



Recording paper,
10 rolls, A819B



Polymer
microsphere
suspension,
80g, T905



Hematology control for
WBC 5 diff
MEK-5DN
MEK-5DL
MEK-5DH

Model Suffixes

MEK-8222 has the following suffixes:
J: 110 - 127 V AC operation
K: 220 - 240 V AC operation

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

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