Celltac G

Fully-automated Hematology Analyzer

MEK-9100K

Fighting Disease with Electronics

NIHON KOHDEN

Celltac G MEK-9100K

Features :

Simultaneous 33 parameter measurement
Micro sampling capability
Status indictor
Walk away autoloader
Homogeneous built-in tube mixing
STAT/tube by tube sample analysis
DynaHelix Flow technology
DynaScatter Laser technology
Smart ColoRac Match
Integrated validation station with touch screen
Reagent and controls bardoce management
Color 10.4-inch LCD touch screen
3 different dilution measurements
Automatic self-check, priming and nozzle cleaning
Complete QC programs : L & J / Westgard Multi rule / $\bar{X}$B($\bar{X}$Batch) management
Access restriction with password
Connection capability : RS232 / USB (Handy barcode, printer) / Handy barcode reader / Printer / LAN / HL7

Physical Specifications :

Dimensions and Weight :
Dimensions : 675 W × 589 D × 576 H mm
Weight : approx. 66 kg
Power Requirements :
- Line voltage : AC 100 to 240 V ±10% AC, 50/60 Hz
- Power input : max 330 VA

Sound Pressure Level : < 85dB
Parameters :
WBC, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, PLT, PCT, MPV, PDW, P-LCR, NE, NE%, LY, LY%, MO, MO%, EO, EO%, BA, BA%, P-LCC*, Mentzer Index*, RDWI*, IG%*, IG#*, Band%*, Band#*, Seg%*, Seg#*
(*) RUO parameters (Research Use Only)
Throughput :
- Auto and manual measurement up to 90 samples/hour

Patient memory capacity : 10,000 patient with graphs
Sample Volume :
- CBC : 25 µL
- CBC+DIFF : 40 µL
- Pre-dilution mode : 20 µL

Barcode Format :
Acceptable formats with or without check digits :
Industrial 2 of 5, ITF, JAN/EAN/UPC, NW-7, CODE 39, CODE 93, CODE 128

Methods and Technologies :

- WBC, RBC, PLT : Electrical resistance (DynaHelix Flow technology)
- HGB : Colorimetric method (surfactant method)
- HCT : Calculated from RBC histogram
- WBC differentiation : Light scatter by laser (DynaScatter Laser technology)
- MCV, MCH, MCHC : Calculated from RBC, HGB and HCT
- PCT : Calculated from PLT histogram
- MPV : Calculated from PLT and PCT
- RDW-CV, RDW-SD : Calculated from RBC histogram
- PDW and P-LCR : Calculated from PLT histogram
- WBC population : Calculated from scattergram

Linearity and Reproducibility :

Precision (Reproducibility)
WBC : 2.0% or less (WBC : 4.00 × 10^3/µL or more)
RBC : 1.5% or less (RBC : 4.00 × 10^5/µL or more)
HGB : 1.5% or less
HCT : 1.5% or less
MCV : 1.0% or less
PLT : 4.0% or less (PLT : 100 × 10^3/µL or more)
NE% : 5.0% or less (NE% : 30.0% or more AND WBC : 4.00 × 10^3/µL or more)
LY% : 5.0% or less (LY% : 15.0% or more AND WBC : 4.00 × 10^3/µL or more)
MO% : 12.0% or less (MO% : 5.0% or more AND WBC : 4.00 × 10^3/µL or more)
EO% : 20.0% or less OR within ±1.0 EO% (WBC : 4.00 × 10^3/µL or more)
BA% : 30.0% or less OR within ±1.0 BA% (WBC : 4.00 × 10^3/µL or more)
NE : 8.0% or less (NE : 1.20 × 10^3/µL or more)
LY : 8.0% or less (LY : 0.60 × 10^3/µL or more)
MO : 20.0% or less (MO : 0.20 × 10^3/µL or more)
EO : 25.0% or less OR within ±0.10 × 10^3/µL (WBC : 4.00 × 10^3/µL or more)
BA : 30.0% or less OR within ±0.10 × 10^3/µL (WBC : 4.00 × 10^3/µL or more)
(Specifications above applies to normal mode)

Linearity
- WBC : within ±3.0% OR ±0.3 × 10^3/µL (WBC : 0.20 to 99.9 × 10^3/µL)
- RBC : within ±3.0% OR ±0.08 × 10^6/µL (RBC : 0.02 to 8.00 × 10^6/µL)
- HGB : within ±1.5% OR ±0.2 g/dL (HGB : 0.10 to 25.0 g/dL)
- HCT : within ±3.0% OR ±1.0% (HCT : 20.0 to 60.0%)
- PLT : within ±10.0% OR ±20 × 10^3/µL (PLT : 10 to 1490 × 10^3/µL)

(Specifications above applies to normal mode)

Safety Standards Certification :

- IEC 60825-1 : 2014
- IEC 61010-1 : 2001
- IEC 61010-2-101 : 2002
- IEC 61326-2-6 : 2005
- EN 55011 : 2002 Group 1 Class B
- EN 60825-1 : 2014
- EN 61010-2-101 : 2002
- EN 61326-2-6 : 2006

EMC Standards :

- IEC 61326-2-6 : 2005
- EN 55011 : 2002 Group 1 Class B
- EN 61326-2-6 : 2006

Environmental Conditions :

- Operating temperature : 15 to 30°C (59 to 86°F)
- Operating humidity : 30 to 85%
- Operating atmospheric pressure : 700 to 1060 hPa

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NIHON KOHDEN

NIHON KOHDEN CORPORATION
1-31-4 Nishiochiai, Shinjuku-ku, Tokyo 161-8560, Japan
Phone +81 (3) 5996-8036 Fax +81 (3) 5996-8100
www.nihonkohden.com

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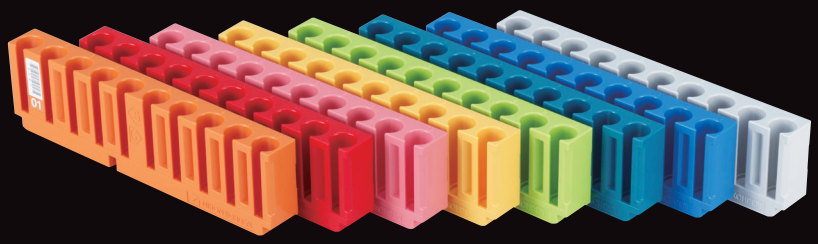
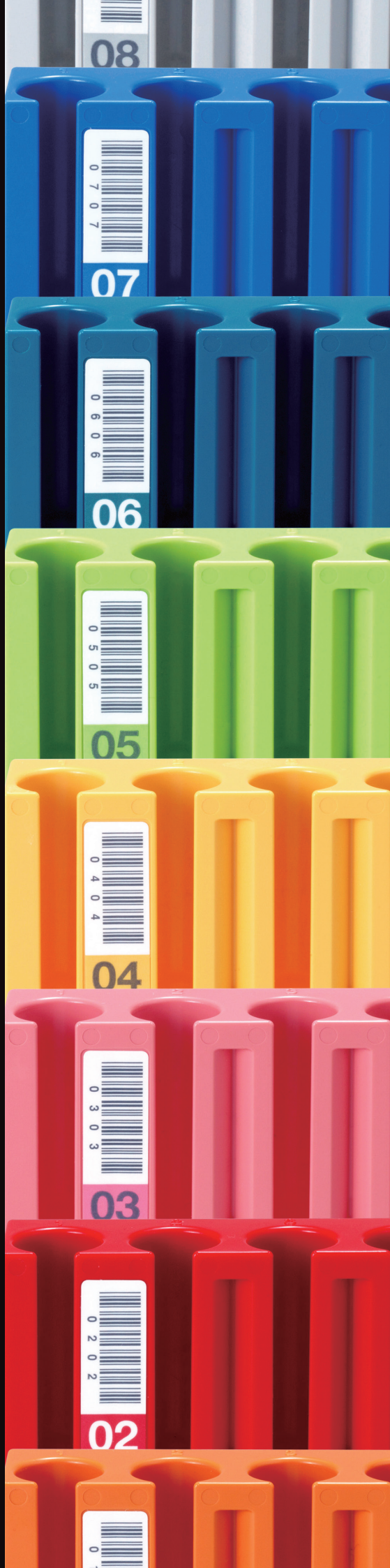
Smart ColoRac Match

Celltac G Smart ColoRac Match helps fast and easy location of clinically abnormal tubes as well as scan-failed barcoded tubes using the unique color-coded rack system that is associated with data management software on the analyzer. This unique user-oriented Smart ColoRac Match system enhances lab's efficiency without extra investment, extra space and special operator training. The Smart ColoRac Match surely maximizes lab's productivity for faster and more accurate test report.



- P : There are some items determined as positive
- E : Measurement error
- B : Barcode error



Celltac G

Transforming the possibility of IVD solutions

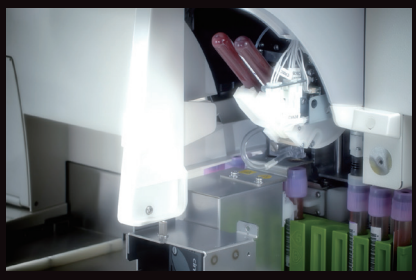
Complete hematology platform offering:

- Up to 90 samples per hour
- 33 parameters
- Micro sampling capability
- Continuous loading of samples via rack fed system up to 7 racks of 10 tubes
- STAT/manual sample analysis
- Laser scatter + flow cytometry technology
- Built-in rocking mixing
- Smart ColoRac Match system
- Integrated validation station with touch screen
- Reagent and controls management with barcode

Status indicator

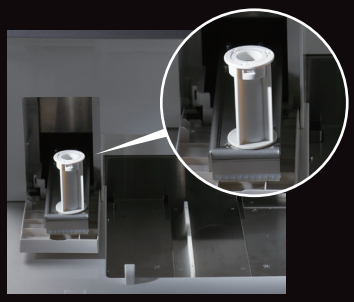
Celltac G status indicator is located in the front panel and clearly illustrates different operating status of the analyzer. For example, the operator can quickly recognize the need for reagent replacement by just looking at the status indicator turning red.

Homogeneous tube mixing



Each tube is picked up one by one from color-coded racks and gently mixed with built-in complete tube inversion mixing arm.
Our auto-loading system contributes to faster test report to clinical decision makers and enhances workflow efficiency.

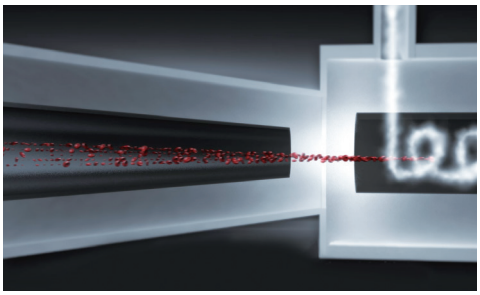
STAT mode



STAT and Pre-dilution modes analyze micro-samples such as pediatric blood collected from the earlobe or fingertip.
Celltac G provides solutions based on the true laboratory needs.

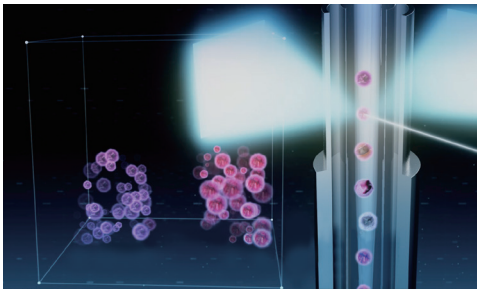
Innovation for superior reliability

DynaHelix Flow



The DynaHelix Flow technology perfectly aligns WBC, RBC and PLT cells for high impedance counting precision using advanced hydrodynamic-focused sheath flow before passing through the aperture. In addition, the DynaHelix Flow totally prevent risk of coincidence or count of blood cell re-entry into the aperture using unique DynaHelix Flow stream. This newly-developed advanced DynaHelix Flow technology greatly improve counting precision and accuracy.

DynaScatter Laser



Celltac G's DynaScatter Laser optical technology truly analyzes and differentiates WBCs in near-native state. The innovative 3 angle scatter detector provides better detection of WBCs using precise light scattering measurement. We obtain WBC size information from a small forward angle (FSS), information of cell structure and complexity of nucleo-chromatin particles from a large forward angle (FLS), and internal granularity and globularity information from a side angle (SDS). This 3D graphic information is calculated by the exclusive Nihon Kohden software algorithm.

Solutions simplifying your daily work

Walk Away System

Celltac G's fully-automated random access walk away loading system enables up to 90 tests per hour by just continuously inserting the color-coded racks on the system.

Seamless Information Transfer

Celltac G's HL7 based information system enables seamless bi-directional information transfer to laboratory information systems.

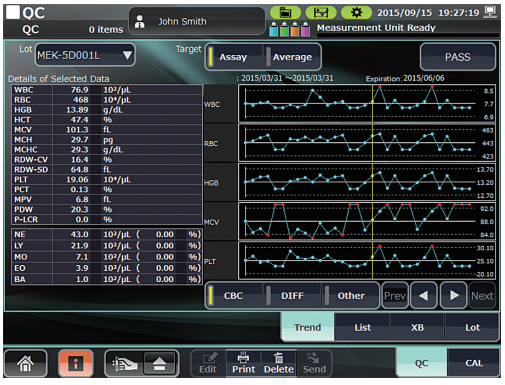
Celltac G reports 33 parameters at once in 40 seconds just with 40µL of whole blood. Newly-added RDWI and Mentzer Index provide clinically-valuable information for differentiating B-thalassemia trait possibility or iron deficiency anemia possibility in microcytic anemia cases.

Also both P-LCR and P-LCC parameters provide information for possible giant platelet, platelet aggregation, or fragment cell presence. These new parameters help faster clinical decision making as well as more accurate diagnosis.

Quality first

Reagent Management

Celltac G's reagent management system helps easier reagent bottle management. With this feature, testing quality is always maintained at high standard level.



Celltac G provides complete traceable QC records that meet laboratory accreditation requirements. In addition, reagent management report, maintenance report, calibration history report, analyzer's daily self-check report and many other reports or logs are always stored using internal memory for evidence of compliance for laboratory accreditation requirements.