Celltac α+

Automated Hematology and ESR Analyzer - MEK-1305

3-part differential hematology analyzer with ESR

Improving Healthcare with Advanced Technology

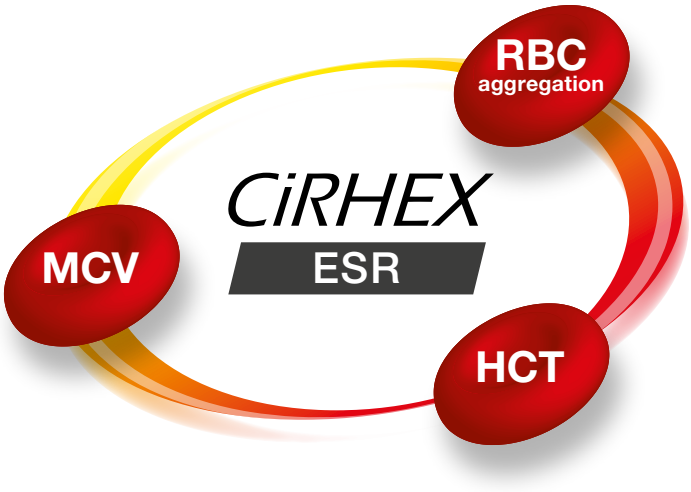
NIHON KOHDEN

Integration – Transforming the possibility of IVD solutions

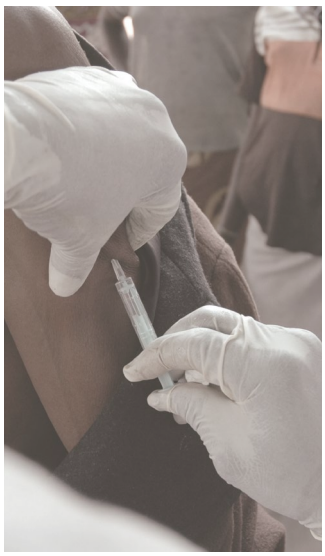
Infectious disease is spreading all over the world and becoming a serious problem. For example, 10 million people developed Tuberculosis (TB) which is one of the most serious infectious diseases, and TB caused an estimated 1.6 million deaths in 2017 according to data from the WHO.

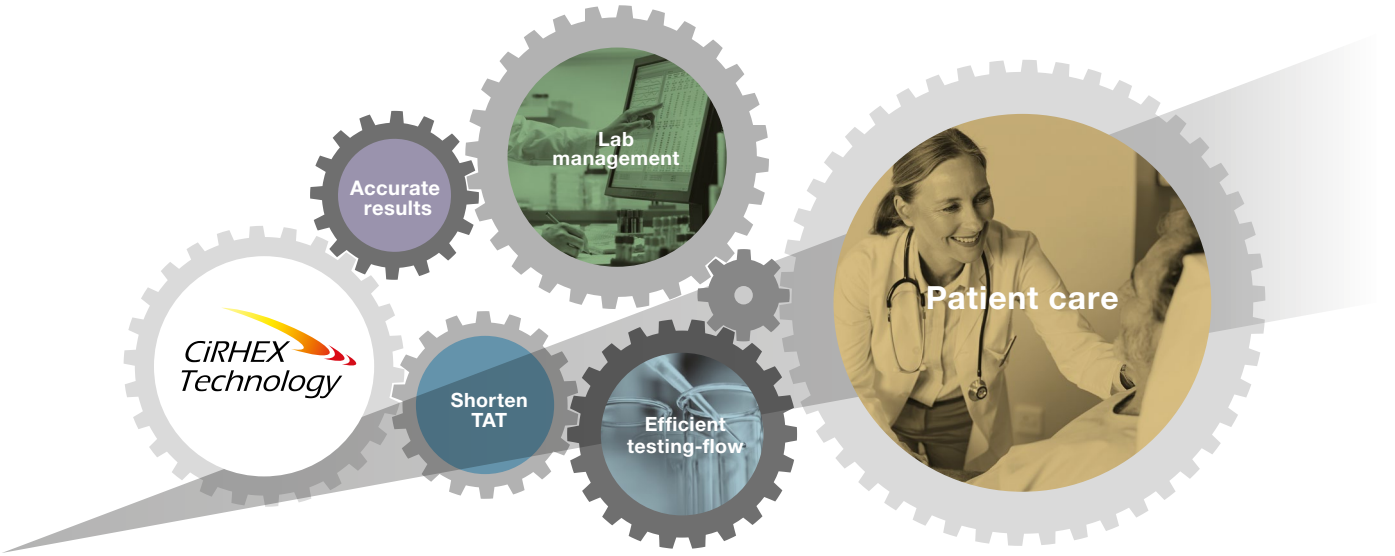
What are your laboratory challenges?
What is required for a better clinical outcome?

Celltac α+,equipped with ESR, can help to achieve a better clinical outcome.



CiRHEX (Cell counter integrated rheometric excellence) technology can provide ESR result highly correlated with Westergren method by using HCT value and MCV value from CBC measurement and also RBC aggregation phenomenon.





Nihon Kohden's unique CiRHEX Technology helps you to achieve a better clinical outcome

Result displayed in 2 minutes by single EDTA tube for both CBC and ESR

A single EDTA tube can be used for both CBC and ESR measurement on our Celltac α+, and you will be able to get CBC results on the screen in 1 minute, and an ESR result in 2 minutes, with a single aspiration. This leads to reducing your workload, avoiding the risk of infection and providing a quick report to the patient.

Only 80 µL sample volume required for both CBC and ESR

Unlike the traditional methods for ESR testing, our Celltac α+ requires only 80 µL of blood sample for both CBC and ESR measurement. Not only does this small blood collection volume improve your laboratory workflow, it also improves the patient experience.

No additional reagents, no additional cost

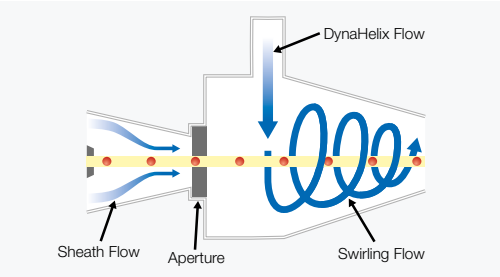
As it is based on conventional hematology analyzers, diluent, detergent and hemolysing reagent are used for CBC and 3 part differential measurement on Celltac α+, but no additional reagents are required for ESR measurement.

Innovation – Maximizes laboratory productivity

Quality hematology testing

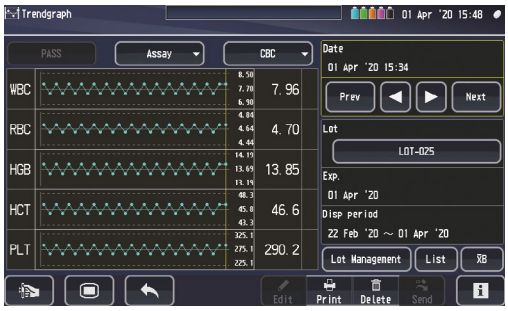
DynaHelix Flow

DynaHelix Flow technology perfectly aligns RBC and PLT cells for high impedance counting precision using an advanced hydrodynamic-focused sheath flow before passing through the aperture. In addition, the DynaHelix Flow totally prevents the risk of coincidence or re-entry of counted blood cells into the aperture, using the unique DynaHelix Flow stream.



This newly-developed advanced DynaHelix Flow Technology greatly improves counting precision and accuracy.

Integrated QC program



- QC program for ESR is available
- The same QC material can be used for CBC, 3 part diff and ESR
- QC lot management up to 25
- Assay value registration using a handy barcode reader (standard accessory)
- Automated judgement function (pass or fail)
- QC management by assay value, average value or Westgard multirule
- QC graph display and printout (optional)
- Automated calculation of statistical information such as average and SD

Reagent management

Celltac α+ reagent management system helps easier reagent bottle management with a unique barcode labeled on each reagent. Through this system and use of genuine Nihon Kohden reagents, testing quality is always maintained at a high level.


Standard accessory, barcode reader

Thirty-one measuring parameters including ESR and other research parameters

Traditional CBC parameters, WBC 3 part differential parameters, Mentzer Index and RDWI, which are considered to be useful for Thalassemia screening. ESR and other parameters which are related to ESR are available on Celltac α+.

Operational excellence

Smart ColoRerun Assist

Smart ColoRerun Assist helps to visually understand the reasons of re-measurement, by showing color-coded messages. This unique user-oriented function greatly improves workflow efficiency and maximizes productivity for faster test reports and clinical decision making.

YELLOW
A panic value (far outside the normal range) needs to be reported to a doctor immediately

ORANGE
Possibly incorrect data due to problems caused by the state of the blood sample or the measuring procedure

RED
Possibly incorrect data due to a technical problem with the instrument or measuring procedure

Seamless information transfer

Celltac α+ supports seamless data transfer* to laboratory information systems through the LAN port or RS-232C port.

*** ASTM protocol is available**

Sister product

Celltac α MEK-1301/1302

Innovative hematology platform offering

- High quality CBC measurement based on DynaHelix Flow technology
- Smart ColoRerun Assist visually showing the reasons of re-measurement
- 23 measuring parameters including WBC 3 part differential
- Up to 60 samples/hour throughput (open mode)
- Complete QC program for laboratory accreditation requirements

MEK-1301
(open mode only)

MEK-1302
(open and closed mode)

Specifications Celltac α+ (MEK-1305)

Key Specifications

Number of measuring parameters: 31
WBC, LY%, MO%, GR%, LY#, MO#, GR#, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, PLT, PCT, MPV, PDW, P-LCR, P-LCC, Mentzer Index*, RDWI*, ESR, ESR HCT Corr.* ESR TEMP Corr.*, SA*, AMP*, AI*, MIN*, t1/2*

*** Research parameters**

Measuring mode:
Open mode

Throughput:
CBC + WBC 3 part differential: Approx. 60 samples/h
CBC + WBC 3 part differential + ESR: Approx. 20 samples/h

Sample volume:
Normal mode: CBC + WBC 3 part differential 20µL
: CBC + WBC 3 part differential + ESR 80µL
Predilution mode: CBC 10 or 20µL
Capillary mode: CBC

Measuring method:
WBC, RBC and PLT count- Electric impedance method (DynaHelix Flow technology)
HGB: Colorimetric method
HCT: Calculated from RBC histogram
WBC differential: Calculated from WBC histogram
ESR: Calculated from syllectogram, HCT and MCV

Measuring range:
WBC: 0.00 - 99.99 x 10^3/µL, 0.00 - 299.90 x 10^3/µL **(High dilution mode)**
RBC: 0.00 - 9.99 x 10^6/µL
HGB: 0.00 - 29.90 g/dL
HCT: 0.0 - 99.9%
MCV: 20.0 - 199.0 fL
MCH: 10.0 - 50.0 pg
MCHC: 10.0 - 50.0 pg
PLT: 0.0 - 1490.0 x 10^3/µL
ESR: 0 - 200 mm

Data storage capacity:
50,000 data incl. histograms in the memory of the analyzer

Reproducibility and Linearity

Reproducibility:
WBC: 2.0% or less (WBC: 4.00 x 10^3/µL or more)
RBC: 1.5% or less (RBC: 4.00 x 10^6/µL or more)
HGB: 1.5% or less
HCT: 1.5% or less
MCV: 1.0% or less
MCH: 2.0% or less
MCHC: 2.0% or less
PLT: 4.0% or less (PLT: 100.0 x 10^3/µL or more)
ESR: 10.0% or less, or SD 1.5 mm or less

Linearity:
WBC:
Within ±3.00% or ±0.30 x 10^3/µL **(WBC: 0.20 to 99.9 x 10^3/µL)**
RBC: Within ±3.00% or ±0.08 x 10^6/µL **(RBC: 0.02 to 8.00 x 10^6/µL)**
HGB: Within ±1.50% or ±0.20 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 ±20.0 x 10^3/µL **(PLT: 10.0 to 1490.0 x 10^3/µL)**

(Specifications above apply to normal mode)

Physical Specifications

Dimensions: 230 W x 450 D x 428 H mm

Weight: 21 kg

Line voltage: 100 V to 240 V

Line frequency: 50 or 60 Hz

Power input: 150 VA

External output: LAN x 1, USB x 2, RS-232C x 3

Environmental Conditions

Operating temperature: 15 to 30 °C

Operating humidity: 30 to 85%

Operating atmospheric pressure: 700 to 1060 hPa

Reagent

Diluent: Isotonac 3 or Isotonac 4

Hemolysing reagent: Hemolynac 310

Detergent: Cleanac 710, Cleanac 3

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