

# Celltac $\alpha$

Automated Hematology Analyzer - MEK-1301/1302

## Quality hematology testing



Improving Healthcare with Advanced Technology

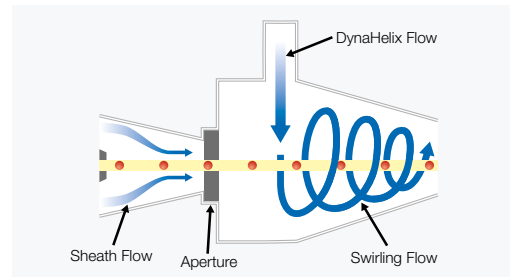
# Innovation – Maximizes laboratory productivity



## Quality hematology testing

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

- The same QC material can be used for CBC and 3 part diff
- 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.



## Operational excellence

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

Sample ID	WBC	LY	MO	CR	RBC	HGB	HCT	MCV	MCH	MCHC	RDW-CV	RDW-SD	PLT	PCT	MPV	POW	P-LCR																		
WBC PANIC	1.49	0.47	0.04	0.98	4.65	13.48	41.3	88.8	29.0	32.9	12.5	42.4	210.7	0.18	8.4	15.1	44.0																		
Flag	WBC Panic Value																																		
Message	Leukopenia																																		
Sample ID	STIRRING ERROR	WBC	7.38	LY	2.33	MO	0.20	CR	4.85	RBC	6.22	HGB	16.99	HCT	52.0	MCV	83.6	MCH	27.3	MCHC	32.7	RDW-CV	42.4	RDW-SD	210.7	PLT	210.7	PCT	0.18	MPV	8.4	POW	15.1	P-LCR	44.0
Flag																																			
Message	Stirring Error																																		
Sample ID	SHORT SAMPLE	WBC	7.38	LY	2.33	MO	0.20	CR	4.85	RBC	4.65	HGB	13.80	HCT	39.9	MCV	109.5	MCH	23.7	MCHC	21.1	RDW-CV	12.5	RDW-SD	42.4	PLT	210.7	PCT	0.18	MPV	8.4	POW	15.1	P-LCR	44.0
Flag																																			
Message	Short Sample																																		

## A choice of two different models, depending on your needs

Celltac α has 2 different models; MEK-1301 and MEK-1302. MEK-1301 has open measurement mode and MEK-1302 has both open and closed measurement modes.



MEK-1301  
(open mode only)



MEK-1302  
(open and closed mode)

## Built-in cap-piercing mechanism

The built-in cap piercing mechanism protects healthcare professionals from sample handling related infection. It helps maintain a high standard of operating safety in the laboratory. Nihon Kohden MEK-1302 is equipped with this function which serves the needs of the laboratory during uncertain times such as during a pandemic.



# Specifications Celltac α (MEK-1301/1302)

## Key Specifications

**Number of measuring parameters:** 23

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\*

\* Research parameters

**Measuring mode:**

Open mode, Closed mode\*, Capillary mode

\* Available on MEK-1302

**Throughput:**

CBC + WBC 3 part differential: Approx. 60 samples/h  
(Open mode)

**Sample volume:**

Normal mode: CBC + WBC 3 part differential 20μL

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 sylectogram, HCT and MCV

**Measuring range:**

WBC: 0.00 - 99.99 x 10<sup>3</sup>/μL, 0.00 - 299.90 x 10<sup>3</sup>/μL

(High dilution mode)

RBC: 0.00 - 9.99 x 10<sup>6</sup>/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<sup>3</sup>/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<sup>3</sup>/μL or more)

RBC: 1.5% or less (RBC: 4.00 x 10<sup>6</sup>/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<sup>3</sup>/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<sup>3</sup>/μL (WBC: 0.20 to 99.9 x 10<sup>3</sup>/μL)

RBC: Within ±3.00% or ±0.08 x 10<sup>6</sup>/μL (RBC: 0.02 to 8.00 x 10<sup>6</sup>/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<sup>3</sup>/μL (PLT: 10.0 to 1490.0 x 10<sup>3</sup>/μL)

(Specifications above apply to normal mode)

## Physical Specifications

**Dimensions:** 230 W x 450 D x 428 H mm

**Weight:** 20 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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