

## Technical Specifications:

### Principles

Flow Cytometry (FCM), Semi-conductor Laser scatter, chemical dye method, independent Basophil channel  
 Impedance method for WBC, RBC, PLT counting  
 Cyanide-free reagent for Hemoglobin test

### Parameters

27: WBC, Lym%, Mon%, Neu%, Eos%, Bas%, Lym#, Mon#, Neu#, Eos#, Bas#, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, PLT, MPV, PDW, PCT, LIC%, LIC#, ALY%, ALY#  
 3 histograms and 1 scatter gram

### Sampling Mode

Autoloader  
 Closed Tube

### Throughput

Up to 60 samples per hour with autoloader  
 Up to 50 samples per hour with closed tube

### Sample Volume

Whole Blood: 20  $\mu$ L  
 Prediluted: 20  $\mu$ L

### Test Mode

CBC CBC+DIFF

### Performance

Carryover	Precision	Linearity
WBC $\leq$ 0.5%	$\leq$ 2.0% (4-15 $\times$ 10 <sup>9</sup> /L)	0.00-99.99 $\times$ 10 <sup>9</sup> /L
RBC $\leq$ 0.5%	$\leq$ 1.5% (3.5-6.0 $\times$ 10 <sup>12</sup> /L)	0.00-8.00 $\times$ 10 <sup>12</sup> /L
HGB $\leq$ 0.5%	$\leq$ 1.5% (110-180g/L)	0-250g/L
PLT $\leq$ 1.0%	$\leq$ 4.0% (150-500 $\times$ 10 <sup>9</sup> /L)	0-1000 $\times$ 10 <sup>9</sup> /L



## BC-5380

Auto Hematology Analyzer

### Data Storage Capacity

Up to 40,000 results including numeric and graphical information

### Communication

LAN Port supports HL7 protocol

### Operating Environment

Temperature: 15  $^{\circ}$ C~30 $^{\circ}$ C  
 Humidity: 30~85%  
 Air Pressure: 70~106 kPa

### Power Requirement

A.C.100-240V  $\leq$  300VA 50/60Hz  
 Weight:  $\leq$  58 Kg

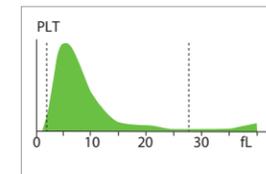
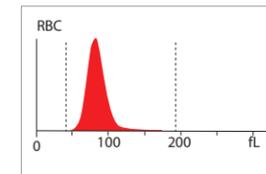
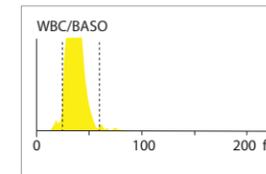
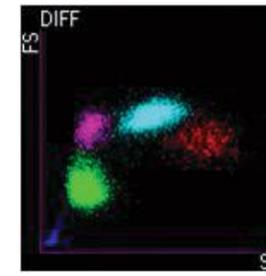
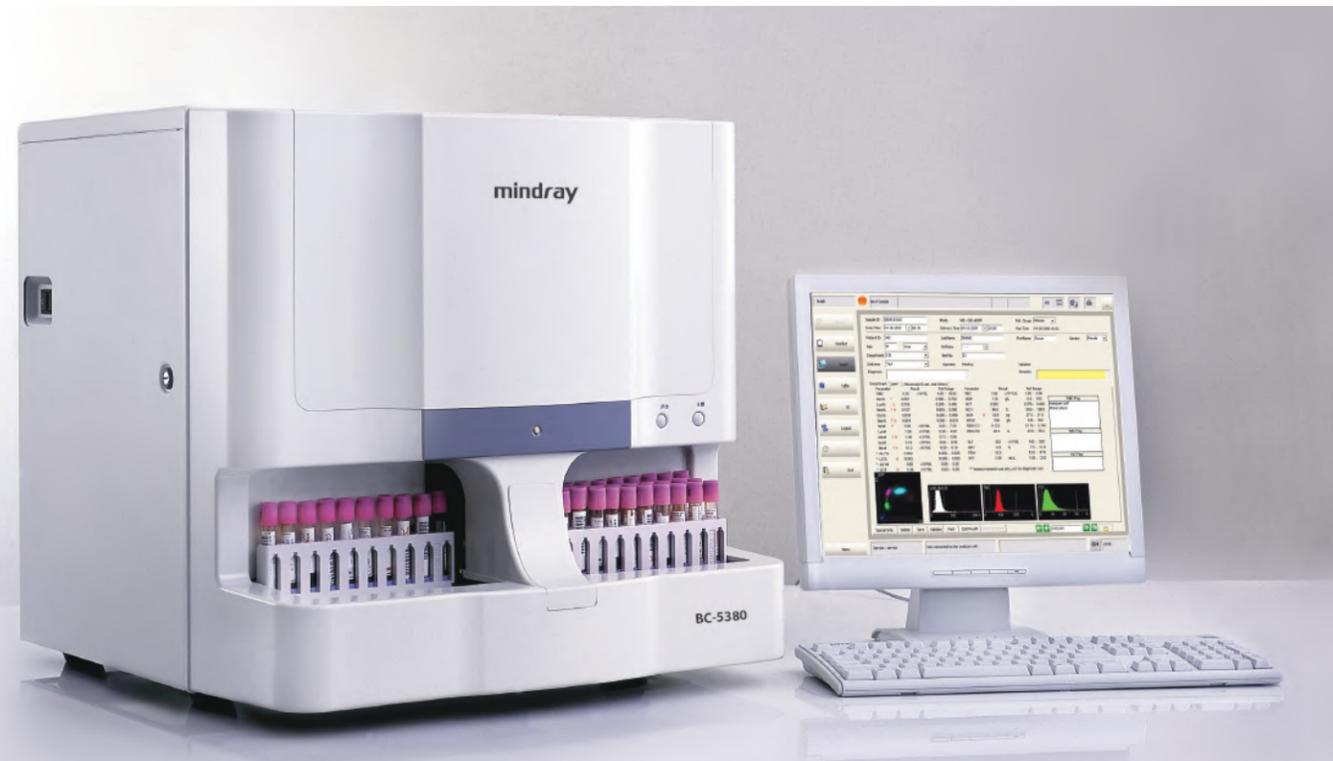


# BC-5380

## Auto Hematology Analyzer

The new BC-5380 Auto Hematology Analyzer provides rapid and reliable test from just 20uL of blood. Utilizing three mainstream technologies: laser scatter, flow cytometry and chemical dye, BC-5380 can provide accurate differential readout. In order to save time and increase walk-away automation, an autoloader is equipped to hold 30 tubes one time and achieve 60 samples/hr throughput. With the popular windows based software, you can easily perform the routine tests, manage patient results, set up auto-cleaning and connect with LIS server. BC-5380 is your ideal choice to streamline daily workflow.

- Semi-conductor laser scatter combined with chemical dye method and advanced flow cytometry
- 27 parameters for complete 5-part differentiation (CBC+DIFF) on white blood cells including immature cells;
- 30-tubes autoloader with random access
- Closed tube sampler supporting selected microtainers
- Capability to flag abnormal samples
- Compact and no external air pump to avoid noise
- 20  $\mu$ L blood sampling for CBC+DIFF test while 15uL for CBC test
- Up to 60 samples per hour throughput
- Supports both whole blood and capillary blood samples
- Windows software with at least 40,000 storage for patient results and 60 files for QC data
- Customization on reference range, auto-cleaning schedule and report format
- Support bi-directional LIS connection



### White blood cell differentiation

The semi-conductor laser system collects forward scatter and side scatter information of white blood cells in a flow cell and differentiates lymphocytes, monocytes, neutrophils and eosinophils according to the cell size and granule complexity. Specific chemical dye treatment to eosinophils can separate from neutrophils in DIFF scattergram. In addition, basophils are measured in an impedance channel upon lysing action on the RBC and other WBC groups.

### Advanced impedance measurement for RBC and PLT

Mindray patented digital sheath flow and weak signal detection techniques are applied to ensure accurate counting and sizing of RBC and PLT in the impedance channel. Dynamic discriminator adjustment can improve the separation of RBC and PLT groups when large platelet and micro RBC are present. Benefiting from these improvements, MCV, RDW and PLT performance are greatly enhanced.

### Flag abnormality

Besides of the routine CBC+DIFF results, BC-5380 offers data result for large immature cell and atypical lymphocytes in infectious diseases. Intelligent flagging system can help doctors fish out suspicious cases for further validation check. For example, microcytosis, anemia, eosinophilia, PLT clump and so on. The manual microscopic check results and morphology description can be print together in the final report.

### Autoloader and STAT

30 vacutainer tubes can be put on the autoloader for continuous loading which increases walk-away time; an independent closed tube sampler can be used for STAT test and can fit selected microtainer tubes.



### 20 $\mu$ L blood sampling

The precise sampling system enables microsampling of 20uL blood for CBC+DIFF test, making the analyzer an ideal choice to work with pediatric and geriatric samples. The benefits extend to reduced reagent consumption and possibility for a backup test.



### M-53 reagents and BC-5D controls

Only 4 routine M-53 reagents are utilized in counting cycle featuring economical consumption and 2 years shelf life. To help precision monitoring, three levels of BC-5D controls are offered in a ready-to-use kit and the assay value table can be automatically imported through USB memory.

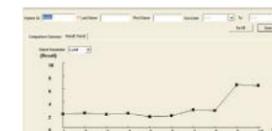


### Windows based software

The analyzer's windows-based software is simple to use and plays a powerful information hub to store 40,000 patient results. You can set-up password access, reference range, auto-cleaning schedule and so on. Also, the built-in report format tool can help to customize the final report type to include microscopic counting, ESR, blood type and diagnostic remarks. Most of the maintenance functions are presented in cartoon icons and can be executed in mouse click without manual work.



Parameter	Reference	Unit	Result	Reference	Unit	Result
WBC	4.0-10.0	$10^9/L$	6.5	100-150	g/L	110
RBC	4.0-5.5	$10^{12}/L$	4.5	35-45	%	65
PLT	100-400	$10^9/L$	250	100-150	g/L	110
Hemoglobin	120-160	g/L	130	100-150	g/L	110
Hematocrit	37-47	%	45	100-150	g/L	110
MCV	80-100	fL	90	100-150	g/L	110
RDW	11.5-14.5	%	12.5	100-150	g/L	110
PLT	100-400	$10^9/L$	250	100-150	g/L	110



### QC monitoring and patient archive

60 QC files are designed to store L-J QC results. 300 data points can be recorded in single file. 4 common QC programs are enabled for full quality assurance purposes. Patient data is archived and can be searched and presented in trend curve for case follow-up.



### Network connection

Supporting HL7 protocol, BC-5380 can be linked to LIS both in uni- and bi-directional manner. Test orders and patient information can be downloaded from server and the results can be automatically transmitted when tests finish.

