

# Evolution

## Cap piercing automated hematology system

- Accepts most commonly used closed collection tubes
- 16 parameters with 3 histograms
- Innovative capillary mode, no need for external pre-dilution
- 60 samples per hour in closed tube mode
- Sample size flexibility satisfies a wide range of end user requirements
- User friendly operator interface
- Data management stores up to 200 sample records with histograms



## Evolution Operation

The Evolution uses electrical resistance for cell counting (WBC, RBC, Plt) and sizing (Plt, RBC). This is combined with optical absorbance of cyanmethemoglobin for hemoglobin measurement. The technology used combines to give a full CBC with 3 part differential in just under one minute.

The instrument has a throughput of a minimum 60 samples per hour in direct sampling mode.

## Sample Handling

Blood samples must be collected into EDTA tubes. The following sample sizes are required:

**Direct mode:** 70  $\mu$ L whole blood using closed or open tube mode.

**Capillary mode:** 25  $\mu$ L whole blood.

## Dilution System

In order to maximise performance and reduce instrument down time a high precision ceramic shear valve and computer controlled reagent dispenser is used. Automatic rinse inside and outside of the sample probe prevents carryover and reduces risk of transmission of blood borne pathogen to operators.

## System Software

The Evolution uses powerful but user friendly software. Every operator request such as counting, retrieving results from the memory, QC, calibration, or printing is only a few key strokes away.

**Patient identification:**  
9 digit keypad entry.

**Patient data storage:** 200 results with histograms printed on screen.

**Report format:** User selectable.

**Patient ranges:** User defined.

**Quality control:** A comprehensive onboard QC package allows optimal monitoring of system performance.

**Operation alerts:** Evolution users get full feedback on operation of the system and sample being analyzed with a range of diagnostic alerts.

**Maintenance:** To monitor maintenance of the system a maintenance log is available.

## Reagent Options

### EVO-PAC LV

Users get approximately 100 tests per pack at 5 samples per day, depending on lab operating procedures.

### EVO-PAC 200

Approximately 200 tests per pack at 10 samples per day, depending on laboratory operating procedures.

**This is a preliminary brochure pending confirmation of specifications**

## System Specifications

Parameter	Precision		Linearity range	
	Level	CV%		
WBC x 10 <sup>3</sup> cells/ $\mu$ L	at 8.0 X 10 <sup>3</sup> cells/ $\mu$ L	<1.5	0.1-99.9	$\pm$ 0.2 or $\pm$ 2%
RBC x 10 <sup>6</sup> cells/ $\mu$ L	at 5.0 X 10 <sup>6</sup> cells/ $\mu$ L	<1.0	0.02-9.99	$\pm$ 0.05 or $\pm$ 2%
Hgb g/dL	at 16 g/dL	<1.0	0.0-30	$\pm$ 0.1 or $\pm$ 2%
MCV fL	at 90 fL	<1.0	40-150	$\pm$ 1.5 or $\pm$ 2%
Plt x 10 <sup>3</sup> cells/ $\mu$ L	at 250 X 10 <sup>3</sup> cells/ $\mu$ L	<3.0	10-1000	$\pm$ 10 or $\pm$ 5.0%
			10-2500	$\pm$ 15 or $\pm$ 7.0%

To optimize performance the Evolution automatically corrects the Plt result when an interference between the Plt and RBC populations is detected.

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