

# EXCELL 16/18

## 3 part differential automated hematology system

- 16 or 18 parameters
- 60 samples per hour
- Sample size flexibility satisfies a wide range of end user requirements
- Large LCD with histograms on screen
- User friendly operator interface
- Data management stores up to 200 sample records and QC statistics
- User interface with multilanguage capability



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### Background

Drew Scientific has been making leading edge and top quality CBC systems for over 15 years. The Excell 16 / 18 offers a reliable alternative for a 3 part differential.

### Excell 16/18 operation

The Excell 16 / 18 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 Excell 18 reports the following parameters:

WBC, Lymp#, Gran#, Mids#  
Lymp%, Gran%, Mids%  
RBC, Hgb, Hct, MCV, MCH, MCHC,  
RDW, Plt, MPV, Pct\*, PDW\*,

\* Not available in the USA: For Research only

The system also displays:  
WBC histogram  
Plt histogram  
RBC histogram

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:** 125  $\mu$ L whole blood.

**Sample saver mode:** 60  $\mu$ L whole blood.

**Pre-dilute mode:** 25  $\mu$ L whole blood and 6ml diluent.

### 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 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 Excell 16/18 automatically corrects the Plt result when an interference between the Plt and RBC populations is detected.

**WBC aperture:** 100  $\mu$ m diameter x 75  $\mu$ m length.

**RBC/Plt aperture:** 78  $\mu$ m diameter x 55  $\mu$ m length. The Plt/RBC channel features the patented "von Behrens" Silencer which eliminates RBC recirculation that interferes with low Plt counts in conventional aperture designs.

**Dimensions (analyzer):** 34 cm (14 in) Height x 45 cm (18 in) Width x 42 cm (17 in) Depth. System Weight is 19 Kg (42 lb).

**Display:** Large (122mm x 92mm) liquid crystal display with backlight.

**Power:** the system works on 90 to 250 VAC 47 to 63 Hz.

**Operating conditions:** The Excell 18 can work in wide range of working environments with a temperature range of 15 °C to 32 °C (60 °F to 90 °F) and relative humidity of 10% to 90% non-condensing.

**Ports:** Three RS-232 serial ports and one parallel printer port (Centronics).

**Printer:** External inkjet or impact. Several selectable emulations.



## System Software

The Excell 16/18 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

**Report format:** User selectable

**Calibration:** Automatic or manual

**Units:** The user can select MKS, SI, SI modified, Chinese

**Patient normal range:** User defined

**Patient action limits:** User defined

**Quality control:** A comprehensive onboard QC package allows optimal monitoring of system performance. The Excell 16 / 18 allows two lots with three levels each. Up to one result for each level per day for 100 days or a maximum of 300 results for each lot can be stored onboard. QC data can also be viewed in a monthly Levey-Jennings plot. A log of QC data with automatic calculation of mean, SD and CV can be printed.

**Operation alerts:** Excell 16 /18 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.

**Language:** Multi language capability



# Ordering information

Part code	Description
<b>INSTRUMENTATION</b>	
BAN-9001-161	EXCELL 16 Hematology system.
BAN-9001-181	EXCELL 18 Hematology system (not available in the USA)
<b>EXCELL 16 CONSUMABLES</b>	
EX-PAC2	Excell 16 Reagent Pack (100 tests) Contains all reagents required to run the system
<b>EXCELL 18 CONSUMABLES</b>	
RA-1620	Isotonic Diluent (20L)
RA-003C	E-Z Clean (5L)
RA-004C	E-Z Clean (10L)
RA-8500	Differential Lyse (500ml)
<b>QUALITY CONTROL</b>	
EXA-326	EX-TROL tri-level (L,N,H 6x2.5ml of each)
EXA-346	EX-TROL tri-level (L,N,H 6x4.5ml of each)
EXA-25L	EX-TROL Low (1x2.5ml)
EXA-25N	EX-TROL Normal (1x2.5ml)
EXA-25H	EX-TROL High (1x2.5ml)
EXA-1825N	EX-TROL Normal (18x2.5ml)
EXA-45L	EX-TROL Low (1x4.5ml)
EXA-45N	EX-TROL Normal (1x4.5ml)
EXA-45H	EX-TROL High (1x4.5ml)
<b>CALIBRATORS</b>	
CAL-30EX	EX-CAL (1x3ml)



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