

ABX **Pentra 60** C+
Hematology Analyser Specifications



PHYSICAL SPECIFICATIONS

- DIMENSIONS & WEIGHT:**

	Height	Width	Depth	Weight
Analyser	51,6 cm 22.3 in	44,4 cm 17.5 in	48,1 cm 19 in	35 kg 77 lbs
- PRINTER:**
Laser EPSON EPL5900
- THROUGHPUT:**
Up to 60 samples/hour
- SOUND PRESSURE LEVEL:**
< 60 dBa
- OPERATING TEMPERATURE & HUMIDITY:**
16 – 34°C (61 – 93°F) room temperature
Maximum relative humidity 80% for temperature up to 31°C (88°F) decreasing linearity humidity at 40°C (104°F).
- SPECIMEN VOLUME:**
CBC Mode 30 µL
CBC + DIFF 53 µL
- POWER REQUIREMENTS:**
Power supply from 100 Vac to 240 Vac ± 10%
50 Hz to 60 Hz
Power consumption Analyser and computer 400 VA
- REAGENTS:**
5 reagents only:
Diluent
Alphalyse or cyanide free lyse (optional)
Cleaner
Eosinofix
Basolyse II

METHODS & TECHNOLOGIES

- MULTI DISTRIBUTION SAMPLING SYSTEM “MDSS”**
- RBC/PLT DETECTION PRINCIPLES**
Method Impedance
Ruby diameter 50 µm
Counting depression 200 mb
Counting duration 2 x 5 seconds
Dilution ratio 1/10 000
Reaction temperature 35°C
- HGB MEASUREMENT**
Method Photometry
Wavelength 555 nm
Dilution ratio 1/250
Reaction temperature 35°C
- HCT MEASUREMENT**
Method Numeric integration
- WBC & BASO COUNT**
Method Impedance
Ruby diameter 80 µm
Counting depression 200 mb
Counting duration 2 x 6 seconds
Dilution ratio 1/200
Reaction temperature 35°C
- LEUCOCYTE DIFFERENTIATION**
Method Impedance with hydrofocus
Cytometry & Cytochemical
Ruby diameter 60 µm
Diameter of the flow 42 µm
Injection duration 12 seconds
Dilution ratio 1/80
Incubation duration 12 seconds
Reaction temperature 35°C
- MCV, MCH, MCHC, RDW, PCT*, PDW***
Calculation

CERTIFICATION

NF EN 1010-1
NF EN 61326.B
NF EN 61000-3-2
NF EN 61000-3-3

UL 3101-1

SOFTWARE SPECIFICATIONS

- DATA PROCESSING:**
Colour screen : 15 in. monitor (800 x 600 min.)
Mother board : 68331 microprocessor, 4 counting channels (68HC11)
Capacity : 10 000 results + graphics Windows NT 4.0 service pack 4.0
PC: Pentium II 350 MHz (min.)
RAM (128 Mo) min., Hard disk (4 Go) min.
Floppy disk & CD-Rom reader
RS 232C
User defined flagging limits
Transmit patient & QC to LIS
Mono & Bi-directional connections
ASTM protocol inside
- QUALITY CONTROL MANAGEMENT:**
12 selectable QC files
XB: 60 operator selectable files with statistics (20 samples per file)
Within run
Levey-Jennings graphs
- LOGS:**
Reagents, calibration, maintenance, errors, blank cycle

PARAMETERS & PERFORMANCE DATA

- 26 PARAMETERS:**

WBC	RBC	PLT
NE# & NE%	HGB	MPV
LY# & LY%	HCT	PCT*
MO# & MO%	MCV	PDW*
EOS# & EOS%	MCH	
BAS# & BAS%	MCHC	
ALY*# & ALY%	RDW	LIC*# & LIC*%
- LINEARITY: (VERSION V2.0)**

WBC	0.4 to 120 x 10 ³ /µL
RBC	0 to 10 x 10 ⁶ /µL
HGB	0 to 30 g/dL
HCT	0 to 80%
PLT	25 to 2200 x 10 ³ /µL

Platelet concentrate mode*	
PLT	500 to 5000 x 10 ³ /µL
- PRECISION:**

Parameters	%CV	Range
WBC	< 1,5	4,0 - 11,0 x 10 ³ /µL
RBC	< 1,5	4,0 - 6,0 x 10 ⁶ /µL
HGB	< 1,0	11,0 - 18,0 g/dL
HCT	< 1,5	35 - 55 %
RDW	< 2,0	80 - 100
PLT	< 5,0	150 - 400 x 10 ³ /µL
MPV	< 3,0	7,6 - 10,9
NE%	< 3,0	50 - 80 %
LY%	< 4,0	25 - 50 %
MO%	< 8,0	2 - 10 %
EOS%	< 15,0	0 - 5 %
BAS%	< 20,0	0 - 2 %
- ACCURACY:**

Parameters	Mean % Difference	Mean Difference
WBC	< 3	± 0,2
RBC	< 3	± 0,10
HGB	< 3	± 0,3
HCT	< 4	± 1,5
PLT	< 5	± 10

* RUO parameters (Research Use Only/not FDA approved)

ABX **Pentra 60** C+
Hematology Analyser

**5-Part Differential analysis,
Closed tube sampling,
Workstation included.**

Subject to technical modifications / HAN719BEN / © 2011 HORIBA Medical - HORIBA ABX SAS - France - RCS Montpellier 328 031 042



Operating IMS

FRANCE +33 (0)4 67 14 15 15 - BENELUX +32 (0)3 281 49 08 - ITALY +39 / 06 51 59 22 1 - SPAIN +34 / 91- 353 30 10 - PORTUGAL +351 / 2 14 72 17 70
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ABX Pentra 60 C+

Compact high range 5 DIFF



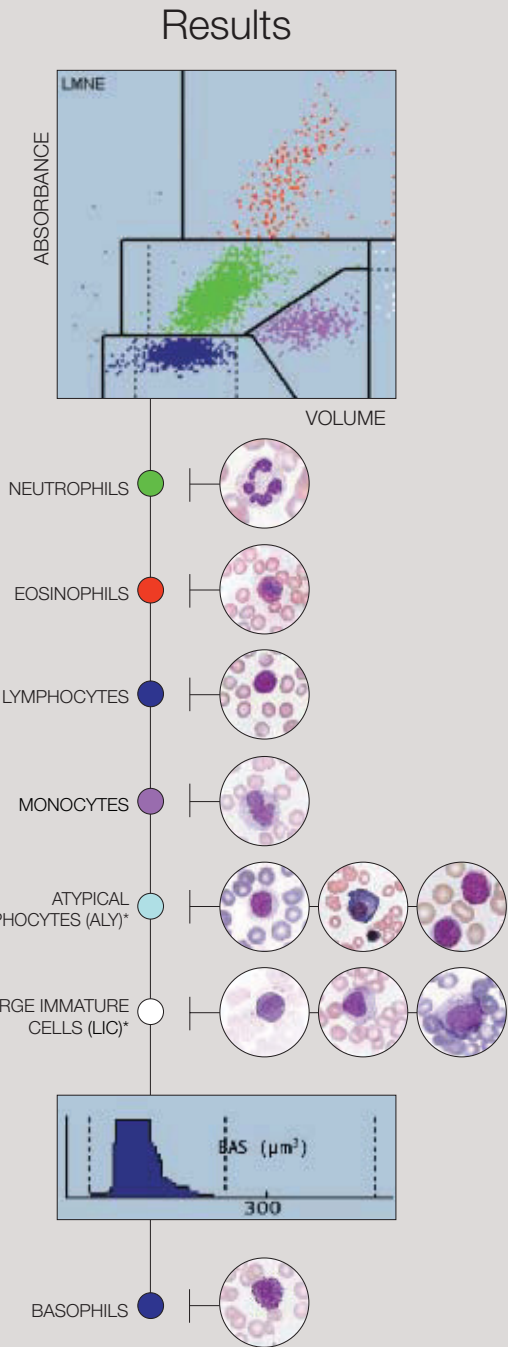
Microsampling of 30 µL (CBC) or 53 µL (CBC + DIFF)
 Exceptional results with all sample types,
 even very small volumes (Paediatric, Oncology, etc.)

Data management on external PC
 Stand-alone organisation capability

Windows NT Platform
 Easy to use

Closed tube sampling
 Reduces biohazard risk

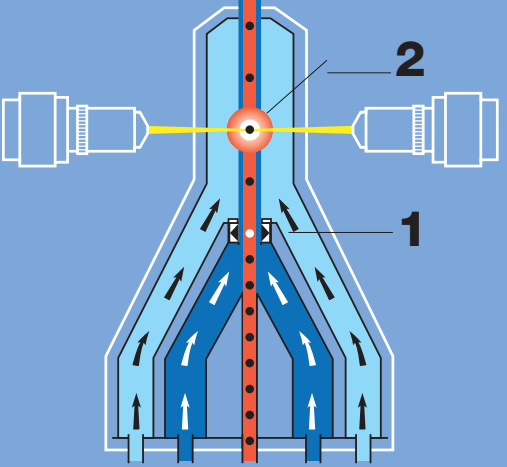
External barcode reader
 100% accurate sample identification



- 26 parameters.
- Histogram of RBC, WBC, PLT.
- Colour leucocyte matrix.
- Pathological and morphological alarms.
- Differential leucocyte count by DHSS technology.
- Basophil measurement through specific channel.
- Percentage and absolute value of neutrophils, eosinophils, basophils, lymphocytes and monocytes.
- Determination of 2 additional sub-populations (% and #):
 - Atypical lymphocytes (ALY)*,
 - Large immature cells (LIC)*.

*Research use only (not FDA approved)

DHSS Double Hydrodynamic Sequential System*



Cytochemistry
 Sample incubation in a temperature-controlled chamber and enzymatic staining with Chlorazol Black. This reagent specifically stains leucocyte nuclei, granules and membranes.

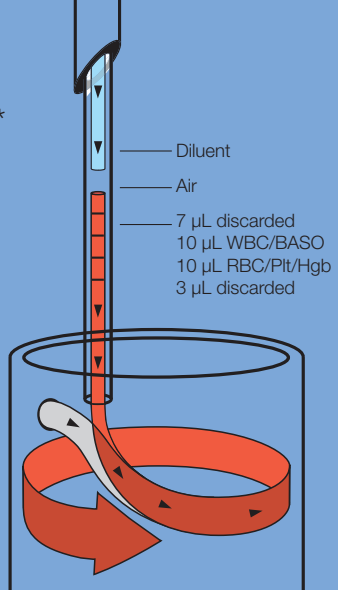
Cytometry
 Injection of the prepared sample into a double hydrofocus cytometer (HORIBA Medical patent) and analysis of cell complexity with a polychromatic light source.

- 1) Measurement of actual cell volume by impedance.
- 2) Measurement of cell content by diffraction and optical absorbance.

MDSS Multi Distribution Sampling System*

MDSS Microsampling
 - Sampling : only 30 µL whole blood for CBC (53 µL for CBC + DIFF).
 - Sample dispensed into pre-heated analysis chamber for highly reproducible results.
 - Tangential flow reagent dilution for optimal sample mixing.

*HORIBA Medical Patents



Concept and Technology

- MDSS*
- DHSS*
- No compressor, no shear valve (no maintenance)

*HORIBA Medical Patents