HORIBA
Medical

Pentra DX Nexus

Process efficiency in Hematology

Pentra DX Nexus

Be productive and flexible, create quality

- 120 samples per hour
- 50 parameters
- Automatic reflex testing
- Automatic validation of results
- Integrated cytology atlas
- SPS evolution

● Reliability

● Ergonomics

Comfort

- Large color touch screen.
- Intuitive interface with virtual keyboard.

Ergonomics

- Smart access to all functionalities.
- Enhanced visibility.
- Comprehensive icons.

External links

- USB port for multi-data exchange and hardware connection.

Differentiation and quantification of hematopoietic populations using 7 analytical systems

Hematopoiesis through Pentra DX Range
SCIENTIFIC BOOK

> **Erythropoiesis**
3 channels: erythroblasts / reticulocytes / erythrocytes

> **Thrombopoiesis**
2 channels: thrombocytes / double matrix

> **Leukopoiesis**
4 channels: leukocytes / double matrix / basophils / erythroblasts

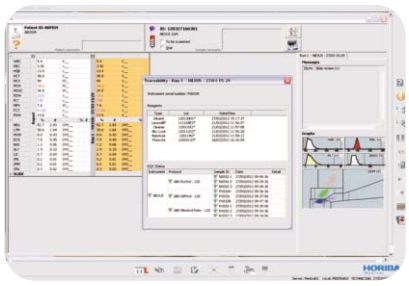
A concentrate of technology

5 recognised measurement principles included on a single analyser.

Reference methods	CBC	DIFF	RET	NRBC
Impedancemetry	•	•	•	•
Flow cytometry		•	•	•
Fluorometry			•	•
Cytochemistry		•		•
DHSS		•	•	•

• In the heart of hematopoiesis

• Comfort

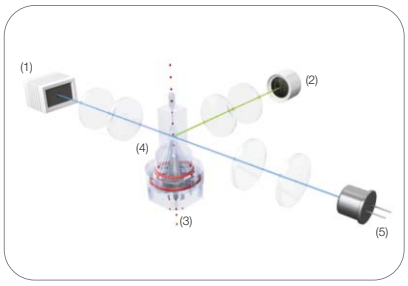


Quality

- Complete traceability for each run including identification, lot number and expiration date on reagents and controls.

Compatibility

- Compatible racks with most pre-analytical systems and post analytical systems.
- Two models of racks.



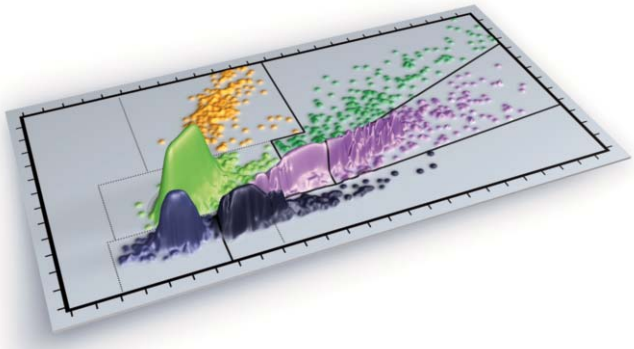
Environment

- New laser source require less space, reducing heat and noise.
- (1) Laser LED
  (2) Photomultiplier
  (3) Hydrofocalisation
  (4) Impedancemetry
  (5) Optical mesurement

Double DIFF matrix

Full leukopoiesis analysis:

- Mature populations 5 DIFF
- Accurate identification and quantification of precursor cells in routine:
  - immature granulocytic line (IMG)
  - immature lymphocytic line (IML)
  - immature monocytic line (IMM)
- Precise identification of abnormal lymphocytes to determine lymphoid pathologies
- Reduced slide review
- Diagnostic and follow-up tool for rapid decision-making

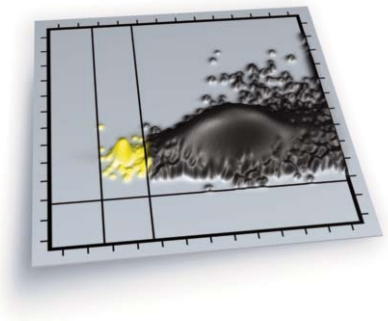


Blast Myeloblast Monoblast Promonocyte Myelocyte Metamyelocyte Band cell Neutrophil Eosinophil Basophil Monocyte Prolymphocyte Lymphocyte

Erythroblasts

Fluorescence-based count:

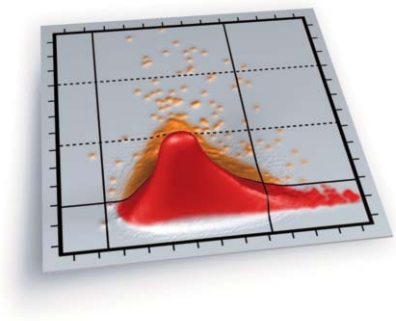
- Erythroblast analysis in routine or reflex mode based on:
  - internal laboratory rules
  - detection alarms
  - patient demographics...
- Use of Thiazole Orange fluorochrome
- Automatic correction of leukocyte count (WBC Fluo)
- Double Hydrodynamic Sequential System (HORIBA Medical Patent)



Reticulocytes

Differential diagnosis of anemia:

- Classification and monitoring of anemia based on the Reticulocyte count and the CRC (Corrected Reticulocyte Count)
- Follow-up of iron-deficiency anemia based on the MRV (Mean Reticulocyte Volume) and the RHCc (Reticulocyte Hemoglobin Content calculated)
- Detection and monitoring of the erythropoietic response according to three stages of maturation: RET High, RET Medium, RET Low and maturation parameters (IRF, MFI, and MRV)



Erythroblasts Reticulocytes Red blood cells

SPS Evolution

Perfect standardization of blood smears

- **Integrated slide-maker***
  120 slides per hour
  Fully automated and secured process
- **Choice of staining protocols**
  May-Grünwald Giemsa, Wright, Wright Giemsa, etc.
- **Sampling volume: 50 µl of whole blood (additional)**
  On primary closed tube
- **Positive identification**
  Barcode reading
  Patient data printed automatically on slide
- **Smearing flexibility**
  User-defined smearing profiles based on the laboratory's own rules

* Optional module

Expert validation station

Results validation

- **Full management of samples**
  Alarms triggered according to patient profile
  Delta check
  Programmable rerun and reflex test rules
- **Automatic validation**
  Standardization of Lab rules (integrated catalog)
  International recommendation rules for Hematology review (ISLH, Laboratory Hematology 11:83-90 © 2005 Carden Jennings Publishing Co., Ltd. doi: 10.1532/LH96.05019)
  integrated in routine
  Automatic validation based on rules, flags, patient history, etc.
- **Digitalization connection**
  Sharing cells with significant patient file
  Sharing the WBC result for scan setting
- **Integrated cytology atlas: Hematovision**
  Aid to accurate diagnosis support
  Excellent education tool
- **Quality assurance**
  Control blood management
  Graphical and table statistics
  XB management
  QCP Export (Quality Control Program)
  Complete traceability (reagents & controls) for each run

Pentra DX Nexus

Technical Specifications

PHYSICAL SPECIFICATIONS

Dimensions & Weight

	Height	Width	Depth	Weight
Without SPS	73 cm	120 cm	55 cm	110 kg
	28.7 in	47.2 in	21.6 in	242.5 lb
With SPS	73 cm	170 cm	55 cm	170 kg
	28.7 in	66.9 in	21.6 in	374 lb

Printer
Laser

Throughput
Up to 120 samples/hour in CBC, DIFF, CBR, SPS modes
Up to 60 samples/hour in DIR, ERB, CBE modes

Operating temperature
16 - 34°C (61 - 93°F) room temperature

Specimen volume
Manual cycle 130 µL
Automatic cycle 200 µL

Power requirements
Power supply from 100 VAC to 240 VAC (± 10%)
50 Hz to 60 Hz
Power consumption Pentra DX120 900 VA

Reagents
ABX Diluent
ABX Lysebio (cyanide free)
ABX Fluocyte
ABX Leucodiff
ABX Basolyse
ABX Cleaner

PARAMETERS

CBC
WBC RBC HGB HCT MCV MCH MCHC RDW PLT MPV PCT* PDW*

Differential Leukocytes
NEU# & NEU% LYM# & LYM% MON# & MON% EOS# & EOS% BAS# & BAS%
ALY*# & ALY*% LIC*# & LIC*% IMG*% IMG*# IMM*% IMM*# IML*% IML*#

Reticulocytes
RET% RET# RETH% RETM% RETL% IMR% CRC% IRF% MRV MFI RHCc*

Erythroblasts
ERB% ERB# WBC Fluo

Body fluids
WBC# RBC# Poly Nuc# Mono Nuc#

* RUO parameters (Research Use Only)

SOFTWARE SPECIFICATIONS

Data Processing
Color LCD: 12.1 in
Capacity: 90,000 results
Operating System: Windows XP Embedded™
Processor: Genuine Intel 1.60 GHz
RAM (Random Access Memory): 1 GB
External DVD/CD drive connected to instrument USB port
RS 232C, 5 X USB1
User defined flagging limits
Transmit patient & QC to LIS
Mono & bi-directional connections

Quality Control Management
48 selectable QC files
XB: 100 operator selectable files with statistics (20 samples per file)
With-in run
Levey-Jennings graphs

Logs
Reagents, quality control, calibration, maintenance, user, settings, communication, errors, blanks

PERFORMANCE DATA

Linearity

Parameters	Standard	Unit
WBC	0 - 150	10^3/mm³
RBC	0 - 8	10^6/mm³
HGB	0 - 24	g/dL
HCT	0 - 67	%
PLT	0 - 1900	10^3/mm³
PLT (platelet concentrated)	0 - 2800	10^3/mm³

Precision:

Parameters	Range	Units	% CV
WBC	4.0 - 10.0	10^3/mm³	< 2
RBC	3.6 - 6.2	10^6/mm³	< 2
HGB	12.0 - 18.0	g/dL	< 1
HCT	36 - 54	%	< 2
PLT	150 - 500	10^3/mm³	< 5
NEU%	45 - 80	%	< 3
LYM%	25 - 50	%	< 5
MON%	2 - 10	%	< 10
EOS%	1 - 5	%	< 20
BAS%	0.5 - 2.5	%	< 30

CERTIFICATION

EN 61326: 2001
IEC 61000-3-2 : 2000
IEC 61000-3-3 : 2001
IEC 61010-1 : 2001
IEC 61010-2-081 : 2001
IEC 61010-2-101 : 2002
CE 98/79/EC

CE

Certified ISO9001/14001 FR 09/2080 OHSAS18001 FR 09/0543 ISO13485 FR 09/0218 FR 05/64451
Operating IMS

HORIBA Medical

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