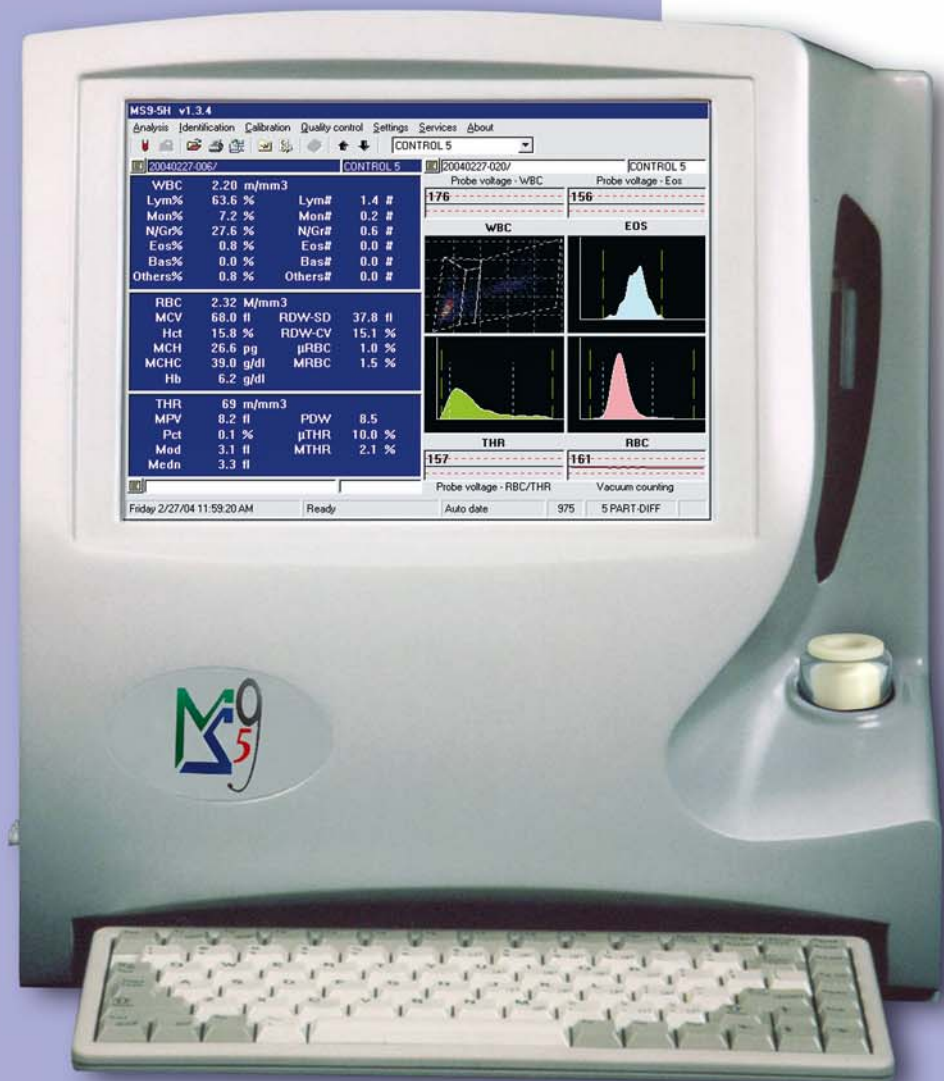


Power
Compactness
Reliability



5-part-diff

HEMATOLOGY



www.mslabos.com



MELET SCHLOESING Laboratoires

9 chaussée Jules César - Évolic 402

95520 OSNY - FRANCE

Tél. : +33 (0)1 30 75 30 00

Fax : +33 (0)1 30 73 17 80





Discover a totally innovative concept in the field of 5-part-differential hematology analyzers:

A unique power/compactness ratio with the MS9-5 !!!

Featuring fully digital powerful electronics, a comfortable Windows® user interface and a remarkably optimized mechanical system, its dimensions do not exceed those of a computer flat screen.

ECONOMY

For better cost control, choose your user mode depending on your needs:

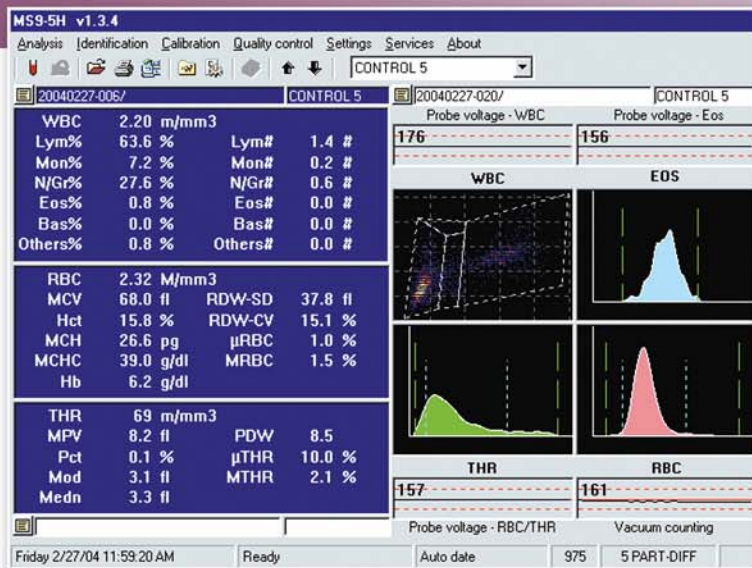
5-Diff mode

29 parameters for the 5-part-differential with 5 white blood cell populations:

- WBC, Lym%, Lym#, Mon%, Mon#, Neu%, Neu#
- Eo%, Eo#, Ba%, Ba#
- RBC Hb, MCV, Hct, MCH, MCHC, RDW-CV, RDW-SD
- μ RBC%, Macro RBC%
- THR, MPV, Pct, PDW, Mode, Median, μ THR%, Macro THR%

3-Diff mode

25 parameters for a 3-part-differential with the 3 main white blood cell populations.

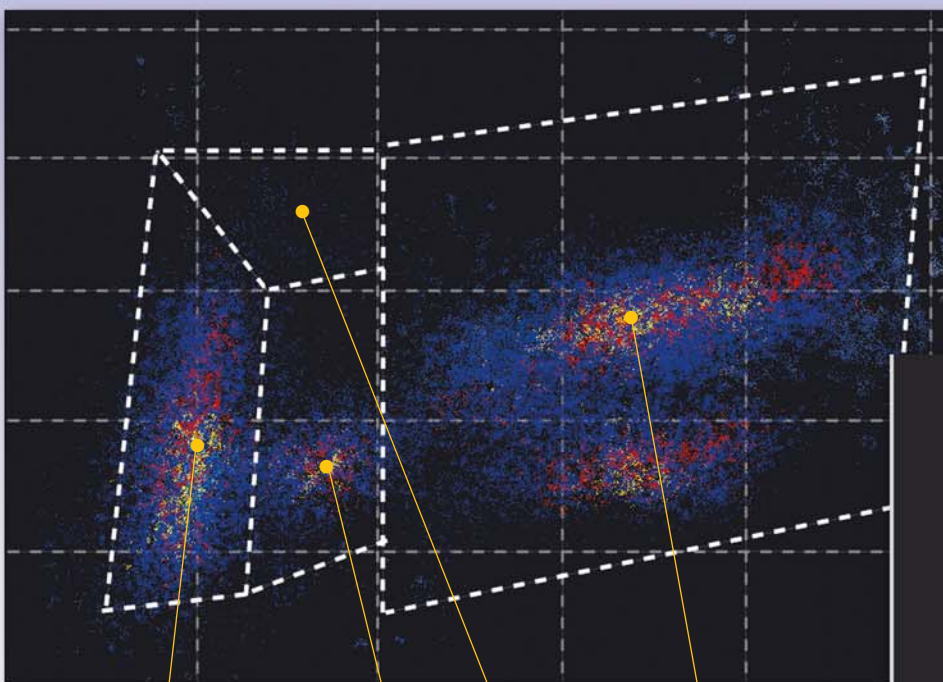


RELIABILITY

Scattergram

After 10 years of research into 'high definition' cellular acquisition from video technologies obtained by MS Laboratoires, a new analytical dimension has been discovered: the "nucleo-cytoplasmic mass ratio".

This new dimension allows white blood cell separation in the form of very distinct three-dimensional sub-assemblies (scattergram shape) and this, in a reliable and, above all, very economical way.



Lymphocytes

Monocytes

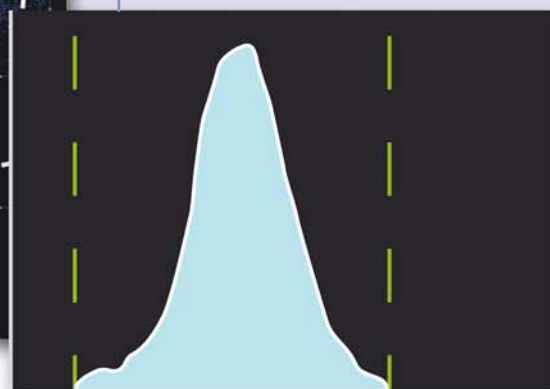
Basophils

Neutrophils
+ Eosinophils

Specific eosinophils channel

A cytolysis is realized with the use of EO-DIFF reagent. This hyper basic lysing reagent allows a chemical selection of the eosinophils cells population.

Their count is subsequently performed in a specific measurement chamber.



SIMPLICITY

Patient ID

Analysis: Displayed Actual Next

Mode: Auto date

Bank: MALE

Identification Number: 20030318-002

Operator Name: SMITH

Buttons: Cancel, Save, New

Fields: Patient First name, Last name, Origin, Departement, Division, Comment

Identify the sample

Direct access key for fast sample identification.

or read the bar code*

* optional



Automatic detection of tube presence and start of analysis.

Sampling of 30 to 60 µl depending on selected mode.
 Programmable start and standby.
 Automatic calibration mode.

Search analysis

Date: 02/07/04 Name: SMITH Operator: []

Max: 100 Identification: [] Departement: []

Bank: [] Division: []

lat.	Patient Id	Date	Name	Bank	WBC	RBC	MCV	Hct	Hb
11	20030207-017	02/07/04 11:51:28		CONTROL	7.72	4.68	77.8	36.4	13.7
12	20030207-016	02/07/04 11:49:43		CONTROL	2.18	2.25	67.5	15.2	5.5
13	20030207-015	02/07/04 11:47:10		CONTROL	2.09	2.41	66.7	16.1	5.5
14	20030207-014	02/07/04 11:43:29		CONTROL	7.72	4.54	77.7	35.3	14.0
15	20030207-013	02/07/04 11:39:19		CONTROL	7.42	4.52	78.4	35.4	13.8
16	20030207-012	02/07/04 11:33:59	B. PICARD	MALE	4.51	5.10	87.5	44.7	16.7
17	20030207-011	02/07/04 11:32:05		MALE	0.08	0.01	69.0	0.1	0.0
18	CONTROL	02/07/04 11:28:34		CONTROL	7.58	4.91	82.6	40.6	13.2
19	20030207-010	02/07/04 11:26:36		CONTROL	6.82	4.65	77.3	35.9	12.6
20	20030207-009	02/07/04 11:16:18	B. PICARD	MALE	4.16	5.03	87.4	44.0	15.3
21	20030207-008	02/07/04 11:13:39	B. PICARD	MALE	4.23	4.99	86.7	43.2	15.5
22	20030207-007	02/07/04 11:09:44	B. PICARD	MALE	4.29	5.01	86.3	43.3	15.4
23	20030207-006	02/07/04 11:07:51		CONTROL	2.10	2.31	67.2	15.5	5.4

Total = 100

Buttons: Delete, Print, Load, Quit

Your results in 60 to 90 seconds with complete display on the screen.

Built-in database for a simplified multi-criteria search of previous results.
 Data export onto CD-ROM or central data processing (serial or network connection).

A4 format print-out

Totally adjustable printing: Header, parameter selection, normal values, curves, color, fonts, size, listing mode, etc.

Listing mode

CLINICAL LABORATORY
 125 Washington Street - New York, NY 10005
 Tel: (212)-222-6789

TUESDAY 27/08/2002 18:21
 Patient ID: 20020827-046
 Name: []
 Bank: MALE
 Operator: []
 Department: []

LEUKOCYTES 4.00 - 10.00

WBC	6.49	m/mm ³	15.0 - 40.0
Lym%	27.2	%	3.0 - 10.0
Mon%	11.0	%	3.0 - 70.0
Neu%	52.7	%	< 6.0
NGr%	4.5	%	
Eos%	1.7	%	
Bas%	2.8	%	
Others%	1.8	%	

ERYTHROCYTES 4.00 - 5.90

RBC	5.16	m/mm ³	73.0 - 98.0
MCV	71.6	fl	35.0 - 54.0
Hct	37.0	%	25.0 - 33.0
MCH	28.6	pg	28.0 - 40.0
MCHC	39.9	g/dl	12.0 - 18.0
RD	14.8	g/dl	< 15.5
RDW-SD	49.5	fl	< 8.0
RDW-CV	18.9	%	< 8.0
µRBC	0.0	%	< 8.0
MµRBC	16.3	%	< 8.0

THROMBOCYTES 150 - 450

THR	127	m/mm ³	6.0 - 13.0
MPV	8.3	fl	< 10.0
Pct	0.1	%	< 8.0
Mod	5.0	fl	< 8.0
Medn	9.2	%	< 8.0
PDW	0.0	%	< 8.0
µTHR	0.0	%	< 8.0
MTHR	1.7	%	< 8.0

MONDAY, OCTOBER 18, 2004

Patient	Date	Name	Bank	WBC	RBC	MCV	Hct	Hb	THR	Lymph	Mon%	Neu%	Eos%	Bas%	Others
120041015-013	10/15/2004	12:58:40	MALE	0.05	0.00	43.8	0.0	0.0	1	57.8	4.4	22.3	3.3	1.1	10.0
20041015-012	10/15/2004	12:55:40	MALE	0.23	0.00	55.3	0.0	0.0	1	57.8	4.4	22.3	3.3	1.1	10.0
30041015-011	10/15/2004	12:53:02	MALE	0.03	0.00	56.6	0.0	0.0	1	57.8	4.4	22.3	3.3	1.1	10.0
40041015-010	10/15/2004	12:49:48	MALE	0.02	0.00	43.9	0.0	0.0	1	57.8	4.4	22.3	3.3	1.1	10.0
50041015-009	10/15/2004	12:43:52	MALE	0.06	0.00	60.3	0.0	0.0	3	68.0	4.3	22.7	6.7	0.0	2.1
60041015-008	10/15/2004	12:41:48	MALE	0.03	0.00	46.3	0.0	0.0	2	61.2	6.1	18.1	3.4	1.0	10.0
70041015-007	10/15/2004	12:38:50	MALE	0.10	0.21	56.4	0.0	0.0	0	51.3	5.1	12.5	18.3	0.0	10.0
8004	10/15/2004	10:20:33	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
90041015-004	10/15/2004	10:18:07	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
10041015-003	10/15/2004	10:14:02	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
11041015-002	10/15/2004	10:07:56	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
12041015-001	10/15/2004	10:06:34	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
13041015-000	10/15/2004	09:32:53	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
14041015-000	10/15/2004	09:29:26	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
15041015-000	10/15/2004	09:22:20	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
16041015-000	10/15/2004	09:18:59	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
17041015-000	10/15/2004	09:13:30	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0
18041015-000	10/15/2004	09:04:37	CONTROL	4.17	4.29	83.1	35.0	0.0	10	67.9	5.1	12.5	18.3	0.0	10.0

Reagents

Optimized management of reagent lots expiry by a chip card system.



TECHNOLOGY

Electronic impedance with two MS Laboratoires-owned technologies:

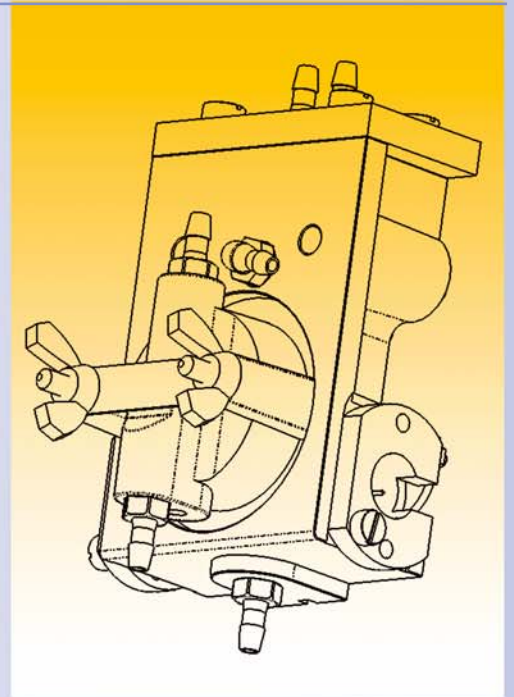
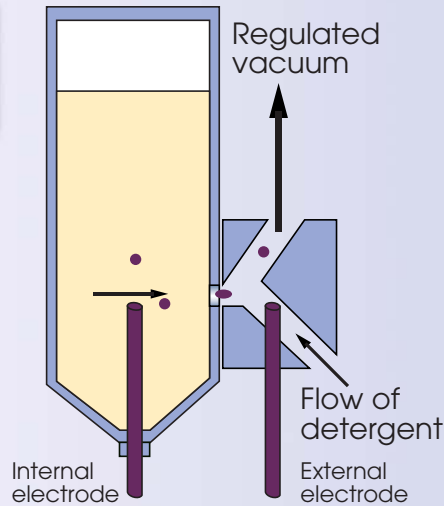
CVDC Chamber Voltage Digital Control

Digital control of the electric flow during the counting time for an immediate detection of a change in the counting aperture diameter (clogging).

20030318-001/	MALE
Probe voltage - WBC	Probe voltage - Eos
176	155
WBC	EOS

FCDM Flow Cell Digital Meter

Cell flow counter enabling permanent monitoring of the condition of the counting apertures and the speed of circulating elements (homogeneity alarm).



Electrovalves

The research and development of MELET SCHLOESING Laboratoires helped to conceive a compact electrovalve which avoids all the usual drawbacks of servicing encountered with pinch-valves. In addition these electrovalves have a very small stagnant volume to prevent any carry-over and their lifetime is tens of millions of cycles.

Electronic components

Boasting a unique experience in the world of new-generation electronic components, MS Laboratoires has devised a high performance electronic circuit system for digital acquisition of cells in hematology by impedance measurement.



Sampling needle

After sampling the volume of blood required, the needle is automatically rinsed externally and internally with a specific MS Laboratoires rinsing device to ensure a total decontamination. The optimized syringe block and a stepper motor greatly increase the precision of the sampling.



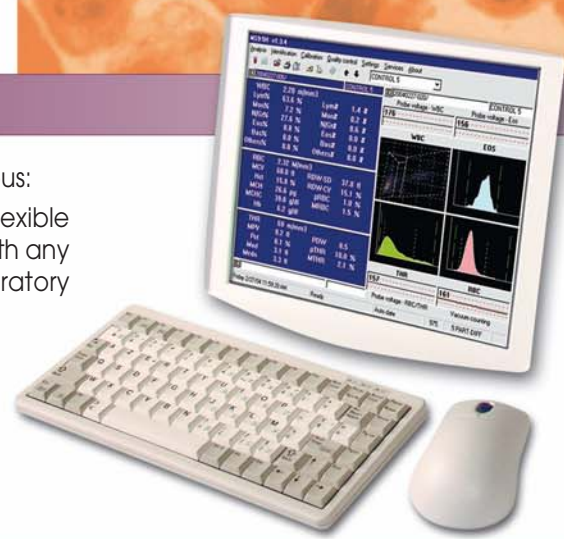
Connections

With all the advantages of a Windows® interface, MS9-5 also has input-output interfaces: two USB ports, a parallel port, a Ethernet port and two RS232 serial ports to connect your hematology cell counter to a PC or any Windows® peripheral device.



PC - WINDOWS USER INTERFACE

Nowadays, the advantages of a Windows® interface are numerous and obvious: Intuitive, the screens are more user-friendly, parameterization is thoroughly flexible and can be suited to your needs. And, needless to say, compatibility is total with any type of application and external peripheral (Printer, bar code reader, laboratory computer system, etc.).



M-SAMPLER



Optionally on the MS9-5, its auto-sampler, the M-Sampler, allows direct transfer of samples without any risk of contamination.

The dual rotation and swing movement applied to the tubes during automatic mixing ensures perfect homogeneity of the tubes without any risk of hemolysis.

Equipped with a standard bar code reader, the M-Sampler manages the positive identification of samples quickly and simply by fully automating the sampling of analyses as well as the delivery of results.

The patented rotors of the M-Sampler have a 24-tube capacity with an emergency position, up to 24 different rotors* can be identified by the MS9-5.

* optional



WARRANTY

Your peace of mind ensured with a **5**-year manufacturer's warranty.

An optional remote maintenance program is available.

Our ISO 9001-2000 certified production site follows the toughest quality standards to guarantee the reliability of our analyzers.



QUALITY

Take advantage of a built-in Quality Control software suited to the French GBEA requirements and complying with the various international standards.

Practical, a chip card delivered with each control lot automates the entry of target values and standard deviations.



Target values					
Lot B023N Expiry date 05/02/05					
Normal					
N°	Parameter	Target	Delta	Min	Max
1	WBC	7.50	0.80	6.70	8.30
2	Lym%	33.7	6.0	27.7	39.7
3	Mon%	7.3	4.0	3.3	11.3
4	N/Gr%	59.0	7.0	52.0	66.0
5	RBC	4.65	0.20	4.45	4.85
6	MCV	79.0	4.0	75.0	83.0
7	Hct	36.7	3.0	33.7	39.7
8	MCH	29.7	3.0	26.7	32.7
9	MCHC	37.6			
10	Hb	13.8			
11	THR	270			
12	MPV	7.7			

Quality control

Normal

Expiration date 5/2/05

Bank: CONTROL 5

Operator:

Buttons: New, Start, Cancel, Ok

Target values

Buttons: Edit, New, Read, Cancel, Ok

SPECIFICATIONS

Main medical features

Available parameters : WBC, Lym%, Lym#, Mon%, Mon#
 : 5-Diff. Neu%, Neu#, Eo%, Eo#, Ba%, Ba#,
 : 3-Diff. Gra%, Gra#,
 : RBC, Hb, MCV, Hct, MCH, MCHC, RDW-CV, RDW-SD
 : μ RBC%, Macro RBC%,
 : THR, MPV, Pct, PDW, Mode, Median, μ THR%, Macro THR%
 Histograms : WBC scattergram (Lym, Mon, Neu, Ba), RBC, THR, Eo
 Min/max range alarms : Programmable, displayed and print out
 Pathologic flag : Programmable, displayed and print-out
 Blood sample volume : Programmable dilution rate.
 : Value 60 μ l : 5-Diff mode / 30 μ l : 3-Diff mode
 Throughput : 45 samples / hour CBC + 5-Diff
 : 60 samples / hour CBC + 3-Diff



Hardware features

Stepper motors sequential dilutor with micro-controller management
 Specific 60 μ m chamber for RBC and THR
 Specific 80 μ m chamber for WBC
 Specific 80 μ m chamber for eosinophils
 Built-in PC computer : - Pentium® or compatible processor
 - Hard-disk storage up to 50 000 tests or more*
 - Alphanumeric PC mini-keyboard
 - Built-in LCD TFT graphic color high resolution display
 - Analyses back-up and help-manual on CD-ROM
 - Fast Ethernet lan adapter 10/100 Base -TX
 - 2 RS232 mono and/or bi-directional transmission
 - 1 parallel port, 2 USB ports 1.1 compliant

* according to Hard Disk capacity

Software features

Windows® application multitasks and multifunction
 Print-out : Multiple type printing format totally programmable
 Color print-out
 Languages : Multiple units and languages available (English, German, Spanish, Portuguese, Italian, etc.)
 Digital banks : Digital pre-programmed banks : male, female, child, newborn (up to 200 digital blood banks programmable by the operator)
 Veterinary version : dog, cat, horse, mouse...
 Quality control : Fully in compliance with international standards the MS9-5 quality control program includes Jennings' graph

Technical specifications

Dimensions : Width 340 mm, height 420 mm, depth 370 mm
 Weight : 20 Kg
 Power supply : 110 - 220 V / 50-60 Hz 300 VA (automatic commutation)
 Reagents : ISOFUX Diluent, TRANSFLUX Detergent, LEUCO-DIFF Lysing reagent, HEMOREF Reference Hb,
 EO-DIFF Eosinophils specific lysing reagent

Options

Bar code reader for fast identification
 M-Sampler : Autosampler for 24 tubes
 Modem
 External printer

Performances

	CV %	Linearity	Carry-over
WBC	< 2,0 %	0,1 to 100.10 ³ / μ l	< 0,5 %
RBC	< 2,0 %	0,5 to 15.10 ⁶ / μ l	< 1 %
Hb	< 2,0 %	1 to 26 g/dl	0
PLT	< 5,0 %	5 to 2000.10 ³ / μ l	< 1 %
MCV	< 2,0 %	35 to 200 fl	-

MS9-5, ISOFUX Diluent, TRANSFLUX Detergent, LEUCO-DIFF Lysing reagent, HEMOREF Reference Hb, EO -DIFF, M-Sampler are registered brands of MELET SCHLOESING Laboratoires. Windows®, CVDC®, FCDM® and Pentium® are registered brands.

Factory specifications

Manufactured according to ISO 9001- 2000
 5 years factory warranty***



*** In compliance with our general guarantee conditions.

Distributed by



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