

**Installation Qualification, Performance,
Qualification and Operational
Qualification**

ABXMicros ES 60
(Serial no:209ESOH04697)
Hematology Analyzer

For

**ORBIT HEALTH CARE & DIAGNOSTIC CENTER
325/11, OLD RAILWAY ROAD, OPP GUPTA MEDICOSE
GURGAON , HARYANA-122001**

HORIBA
Medical

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General Instructions:

HORIBA India Pvt.Ltd. is responsible for installation of HORIBA ABX Micros ES 60, Fully Three Part Automated Hematology Analyzer, at ORBIT HEALTH CARE & DIAGNOSTIC CENTER, 325/11, OLD RAILWAY ROAD, OPP GUPTA MEDICOSE, GURGAON, HARYANA-122001 as per the attached protocol.

- An authorized HORIBA India Pvt. Ltd., representative will physically check the system and proceed for the installation.
- This installation protocol will be followed as specified by the manufacturer.
- Installation checks will also be performed to verify that the instrument has been installed with proper connections and utilities.
- After the installation of the system, Instrument calibration & QC will be performed by the authorized HORIBA India Pvt. Ltd. representative.
- An authorized HORIBA India Pvt. Ltd. representative will also perform the precision check on the system to check if it is as per the claim of the manufacturer.
- The results obtained for Calibration, QC & Precision checks will be verified by the qualified trained employee of Orbit health care & diagnostic center 325/11, old railway road gurgaon along with an authorized HORIBA India Pvt. Ltd., representative.
- On completion of the Installation all the necessary documents of the System checks will be used to evaluate the instrument installation in accordance with the manufacturer's protocol and intended use.
- An authorized HORIBA India Pvt. Ltd., representative will verify the documents of the system checks and approve the same.
- Successful completion of this protocol will verify that this instrument has been installed in accordance with the intended usage.

Report Sign Off

Prepared by:	HORIBA Medical - HORIBA India Pvt. Ltd.		
Name:	Hemendra Katara		
Title:	Signature: 	Date:	17/08/22
Application Specialist			
Reviewed by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Signature: 	Date:	17/08/22
Approved by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Signature: 	Date:	17/08/22

HORIBA

Medical

ABX MICROS ES 60
(Serial no:209ESOH04697)
Hematology Analyzer

For

ORBIT HEALTH CARE & DIAGNOSTIC CENTER
325/11, OLD RAILWAY ROAD, GURGAON H.R.

#246, Okhla Industrial Estate, Phase III, POCKET 40/203, NEHRU ENCLAVE
110020, India, Tel: 011 4646 5000.

Visit us:<http://www.horiba.com/in/>

3. Equipment Description :

Micros ES 60, Hematology Analyzer

Instrument Identification	Verified Yes/No	Verified by / Date
Equipment Type : Hematology Analyzer	Yes	Yes
Model : HORIBA MICROS ES 60	Yes	Yes
Manufacturer : HORIBAMedical, France	Yes	Yes
Marketed By : HORIBA Medical - HORIBA India Pvt. Ltd.	Yes	Yes
Equipment # : One	Yes	Yes
Serial Number : 209ES0H04697	Yes	Yes
Dimensions : 24(W) x 18(D) x 24(H)	Yes	Yes
Power Supply: 100Vac to 240Vac (+/-10%) 50Hz to 60Hz Power Consumption: 150 VA	Yes	Yes

4. Accessories/Consumables :

The accessories were supplied with the instrument as per the check list. Check & verified in case they are found to be in order.

Qualified Trained employee name	Verified By	Date

5. Preventive Maintenance :

The routine preventive maintenance of the system will be carried out by an authorized HORIBA India Pvt. Ltd., engineer at a specified time interval as recommended by the manufacturer.

6. Spare Parts :

HORIBA India Pvt. Ltd strongly recommends the end user to maintain a basic consumable parts onsite to minimize down time due to minor failures. Spare parts as provided in the installation kit.

A. Installation Procedure:

1. Putting the system at the predefined and preinspected location (Having suitable Working Conditions).
2. Removal of the internal packing material of the system.
3. Place the Instrument on the benchtop (Vibration free).
4. Connect the Power cord to the MICROS ES 60.
6. Turn on the External Printer.
7. All the operating software has been loaded in to MICROS ES 60.
8. Now fromback side of the instrument turn the power switch ON. MICROS ES 60 goes through its power up and self-test sequence.
9. The Micros Es 60 login menuis displayed after the Start up cycle is completed. Enter the credentials.

B. INSTALLATION CERTIFICATE:

Instrument Name : HORIBA MICROS ES 60
Serial Number : 209ES0H04697
Customer Details : ORBIT HEALTH CARE & DIAGNOSTIC CENTER
GURGAON
with complete address
Installation Date : 20/08/19
Warranty expires on :

Prepared by:	HORIBA Medical - HORIBA India Pvt. Ltd.		
Name:	Hemendra Katara		
Title:	Sign: 	Date: 17/08/22	
Application Specialist			
Reviewed by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Sign: 	Date: 17/08/22	
Approved by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Sign: 	Date: 17/08/22	

Deviation:

Conclusion: Instrument has been qualified for Installation. Hence it has been taken for Operational Qualification.

HORIBA

Medical
ABXMICROS ES 60

(Serial no: 209ES0H04697)

Hematology Analyzer

For

ORBIT HEALTH CARE & DIAGNOSTIC CENTER
325/11, OLD RAILWAY ROAD GURGAON H.R.

#246, Okhla Industrial Estate, Phase III, POCKET 40/203, NEHRU ENCLAVE
110020, India, Tel: 011 4646 5000.

Visit us: <http://www.horiba.com/in/>

A. Operational Qualification

1. Instrument Identification:

Instrument Name : HORIBA MICROS ES 60

Serial Number : 209ES0H04697

2. Following is the list of actions performed and verified for running the system routinely.

Sr. No.	Test Name	Test Purpose	Method	Observation	Verified Sign/Date
1.	SYSTEM SWITCH ON	TO CHECK THE ERROR FREE POWER UP.	Switch on the main, switch on the system. Login into Pentra Application software. Start up cycle is performed. Login in as User and check for the Screen Errors.	OK	OK
2.	STARTUP CYCLE	TO CHECK THE BACK GROUND IS OK.	Run a startup cycle from the main menu; check if the background is in the acceptable range.	OK	OK
3.	PRINTER TEST	TO CHECK STATUS OF THE PRINTER.	Initiate a self-test of printer or run a sample to check the print.	OK	OK
4.	REAGENT STATUS	TO CHECK ADEQUATE REAGENT IS AVAILABLE FOR ANALYSIS	Manually check in the reagent bottles or else change the reagent from the Status Menu.	OK	OK
5.	SAMPLE ANALYSIS	TO CHECK PROPER FUNCTIONING OF SAMPLE ANALYSIS	1. To run Stat/ Manual sample, press on sample identification and enter the sample ID and press on validate.	OK	OK
6.	ARCHIVE AND CURRENT REPORTS	TO RECOVER THE SAMPLE RESULT FROM ARCHIVE AND CURRENT REPORTS	Press on Results History icon and view the current results. To view archived reports, Select Archive results and select the date of the reports and view the report.	OK	OK
7.	QUALITY CONTROL DATA	TO RECOVER QUALITY CONTROL DATA AND LJ GRAPH	Press on QC Icon from the Main Menu and select the Lot No. and press on Print Icon to print LJ graph. To view on QC Runs ,Click on Datas .	OK	OK
8.	FLAGS AND	TO CHECK THE	Run sample to verify alarms and	OK	OK

ALARMS	PROPER FLAGS AND ALARMS FOR SAMPLES	flags.		
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B. Operational Training Record

Operator Training: The users responsible for the operation of this instrument will be trained on the proper usage of the system. Training will focus on the basic operation and maintenance of the system. The training of the operators will be documented and the training records will be filled as indicated below:

Sr. No.	Operators	Designation	Name & Sign of the Trainer.	Date
1.	MR. ABHINANDAN	Lab tech	Hemendra katara	10/8/22
2.	MR SURAJ	Lab tech	Hemendra	10/8/22
3.	MR SUNIL VERMA	Lab tech	Hemendra	10/8/22
4.	MS REKHA	Lab tech	Hemendra	10/8/22
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				

C. Operator Maintenance Protocol

Maintenance and Troubleshooting: Perform Concentration Cleaning as advised by the HORIBA Medical Representative. Run a Shutdown cycle before switching off the analyzer.

OPERATIONAL CERTIFICATE:

Instrument Name : HORIBA MICROS ES 60

Serial Number : 209ES0H04687

Customer Details
GURGAON
with complete address

: ORBIT HEALTH CARE & DIAGNOSTIC CENTER

Installation Date
Warranty expires on

HORIBA

Medical

Prepared by:	HORIBA Medical - HORIBA India Pvt. Ltd.	
Name:	Hemendra katata	
Title:	Sign: 	Date: 17/08/22
Application Specialist		
Reviewed by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON	
Name:	PAWAN SHARMA	
Title:	Sign: 	Date: 17/08/22
Approved by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON	
Name:	PAWAN SHARMA	
Title:	Sign: 	Date: 17/08/22

Deviation:

Conclusion: Instrument has been qualified for Operational. Hence it has been taken for Performance Qualification.

ABX**MICROS ES 60**

(Serial no:209ES0H04697)
Hematology Analyzer

For

ORBIT HEALTH CARE & DIAGNOSTIC CENTER,GURGAON

#246, Okhla Industrial Estate, Phase III, POCKET 40/203, NEHRU ENCLAVE 110020,
India, Tel: 011 4646 5000.

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A. Design Qualification

This is to certify that Hematology analyzer specially designed for perform the following parameters.

1. WBC = White Blood Cell Count
2. RBC = Red Blood Cell Count
3. HGB = Hemoglobin Concentration
4. HCT = Hematocrit
5. MCV = Mean Corpuscular Volume
6. MCH = Mean Corpuscular Hemoglobin
7. MCHC = Mean Cellular Hemoglobin Concentration

- 8. PLT = Platelet Count
- 9. RDW-CV = Red Cell Distribution Width (Coefficient Of Variation)
- 10. RDW SD = Red Cell Distribution Width
- 11. PDW = Platelet Distribution Width
- 12. MPV = Mean Platelet Volume
- 13. PCT = Plateletcrit
- 14. Gra # =GRANULOCYTE COUNT
- 15. LYM# = Lymphocyte Count
- 16. MONO# = Mono
- 17. LYM% = Lymphocyte Percent
- 18. MONO% = Monocyte Percent
- 19. Gra % = GRANULOCYTE PERCENT

B. DESIGN CERTIFICATE:

Instrument Name : HORIBA MICROS ES 60



Serial Number : 209ES0H04697

Customer Details : ORBIT HEALTHCARE & DIAGNOSTIC
CENTER,GURGAON
with complete address

Installation Date : 20/08/19

Warranty expires on :

Prepared by:	HORIBA Medical - HORIBA India Pvt. Ltd.
Name:	Hemendra kataria

Title:	Sign: 	Date: 13/08/22
Application Speciali:	HORIBA <small>URGAON</small> Medical	
Reviewed by:		
Name:		
Title:		
Approved by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON	
Name:	PAWAN SHARMA	
Title:	Sign: 	Date: 13/08/22

Deviation:

Conclusion: Instrument has been qualified for Operational. Hence it has been taken for Design Qualification.

ABXMICROS ES 60
(Serial no: 209ESOH04697)

Hematology Analyzer

For
**ORBIT HEALTH CARE & DIAGNOSTIC
CENTER, GURGAON**

#246, Okhla Industrial Estate, Phase III, POCKET 40/203, NEHRU ENCLAVE
110020, India, Tel: 011 4646 5000.

Visit us: <http://www.horiba.com/in/>

A. Performance Qualification

A. Instrument Identification:

Instrument Name : HORIBA MICROS ES 60

Serial Number: 209ESOH04697

B. Following is the list of test to be performed and verified

- Blank Reference cycle: To verify the Startup Cycle of the instrument.

Serial No: 209ESOH04697

Parameters	Acceptable Range	Observed Value	Verified by Sign/Date
WBC $10^9/\text{mm}^3$	$\leq 0.3 \times 10^9/\text{mm}^3$	0	
RBC $10^9/\text{mm}^3$	$\leq 0.02 \times 10^9/\text{mm}^3$	0	

HGB g/dl	≤ 0.3 g/dl	0	
PLT $10^9/\text{mm}^3$	$\leq 10 \times 10^9/\text{mm}^3$	0	

Conducted By:

Verified By

- Calibration: To calibrate the Instrument using calibrator (ABX Minocal) and verify the same.

Procedure: Go to Quality Assurance icon on main screen and then Calibration icon. Run Calibrator (ABX Minocal) 06 times, without taking the values of first run, calibrate the instrument using average of the last 10 runs. Run Calibrator as a sample to verify the calibration.

Lot: CX473; Expiry: 05/09/2022.

Serial No: 209ES0H04697

Parameter	Target Value (As per Kit Insert)	Mean Value	Observed CV%	Acceptance CV%	Comments
WBC	9.0	8.8	0.9	<2%	PASSED

RBC	4.46	4.62	0.38	<2%	PASSED
HGB	13.0	12.9	0.3	<1%	PASSED
HCT	37.5	38.4	0.3	<2%	PASSED
PLT	235	237	3	<5%	PASSED

Conducted By:

Verified By:

- **Control Runs:** The quality of the analyzer is checked by running three levels of Controls & getting the values in the range as per the kit insert.
 - Lot: ABX Minotrol MX436L; Exp:05/10/22
 - Lot: ABX Minotrol MX436N; Exp:05/10/22
 - Lot: ABX Minotrol MX436H; Exp:05/10/22

Serial No: 209ES0H04897

Level I: Low Control

Parameters	Range (As per Kit Insert)	Observed Value Dated 10/08/2022	Comments
RBC $10^9/mm^3$	2.08 – 2.42	2.22	Passed
HGB g/dL	5.3 – 6.3	5.8	Passed
HCT %	14.2 – 18.2	15.9	Passed
MCV μm^3	68 – 76	72	Passed
MCH pg	23.8 – 27.8	26.1	Passed
MCHC g/dL	32.8 – 38.8	36.4	Passed
RDW %	12.5 – 18.5	14.2	Passed
PLT $10^9/mm^3$	53 – 97	67	Passed
MPV μm^3	6.3 – 10.3	7.8	Passed
WBC $10^9/mm^3$	1.7 – 2.5	2.0	Passed
GRA %	21.0 – 35.0	26.1	Passed

GRA #	0.2 – 1.00	0.60	Passed
LYM %	56.0 – 72.0	64.7	Passed
LYM #	0.90 – 1.70	1.30	Passed
MON %	2.0 – 14.0	8.4	Passed
MON #	0.0 – 0.40	0.10	Passed

Level II: Normal Control

Parameters	Range (As per Kit Insert)	Observed Value Dated 10/08/2022	Comments
RBC 10 ³ /mm ³	4.44 – 4.84	4.50	Passed
HGB g/dL	13.1 – 14.1	13.7	Passed
HCT %	36.5 – 40.5	37.3	Passed
MCV μm ³	78 – 88	83	Passed
MCH pg	27.3 – 31.3	30.4	Passed
MCHC g/dL	32.3 – 38.3	36.7	Passed
RDW %	11.8 – 19.8	12.8	Passed
PLT 10 ³ /mm ³	230 – 290	266	Passed
MPV μm ³	7.4 – 11.4	8.4	Passed
WBC 10 ³ /mm ³	6.8 – 8.8	7.4	Passed
GRA %	50.0 – 70.0	56.6	Passed
GRA #	3.78 – 5.58	4.30	Passed
LYM %	19.3 – 35.3	36.0	Passed
LYM #	1.43 – 2.83	2.60	Passed
MON %	0.2 – 12.2	7.4	Passed
MON #	0.01 – 0.95	0.50	Passed

Level III: High Control

Parameters	Range (As per Kit Insert)	Observed Value Dated 10/08/2022	Comments
RBC $10^9/\text{mm}^3$	5.31 – 5.95	5.73	Passed
HGB g/dL	17.3 – 19.1	18.5	Passed
HCT %	46.7 – 53.5	50.7	Passed
MCV μm^3	85 – 93	89	Passed
MCH pg	30.3 – 34.3	32.2	Passed
MCHC g/dL	33.3 – 39.3	36.4	Passed
RDW %	10.5 – 16.5	13.1	Passed
PLT $10^9/\text{mm}^3$	425 – 555	529	Passed
MPV μm^3	6.0 – 10.0	8.1	Passed
WBC $10^9/\text{mm}^3$	16.6 – 21.0	20.3	Passed
GRA %	61.4 – 81.4	74.8	Passed
GRA #	11.6 – 15.4	15.30	Passed
LYM %	5.1 – 21.1	18.1	Passed
LYM #	0.96 – 3.96	3.60	Passed
MON %	0.0 – 15.2	7.1	Passed
MON #	0.0 – 2.86	1.40	Passed

Conducted By:

Verified By:

- Precision Study: Precision is checked by running blood sample in 10 replicates & getting CV% in within acceptance.

Serial No: 209ESOH04697

Parameters	CV % Acceptance	CV % Observed	Comments
RBC $10^9/\text{mm}^3$	< 2.0	0.38	Passed
HGB g/dL	< 1.5	0.30	Passed
HCT %	< 2.0	0.30	Passed
PLT $10^9/\text{mm}^3$	< 5.0	3.0	Passed
WBC $10^9/\text{mm}^3$	< 2.5	0.9	Passed

Conducted By:

Verified By:

- Carryover Study: Carry over is checked by running quality controls (Low & high) in 3 replicates & getting CV% in within acceptance.
 - Carry Over % = $(L1-L3) * 100 / (H3-L3)$.

Serial No: 209ESQH04697



Parameters	WBC 10 ³ /mm ³	RBC 10 ⁶ /mm ³	HGB g/Dl	HCT %	PLT 10 ³ /mm ³
Carry Over (%)	0.34	0	0	0	0.17
Manufacturer acceptable CV%	<1%	<1%	<1%	<1%	<1%
Status	Passed	Passed	Passed	Passed	Passed

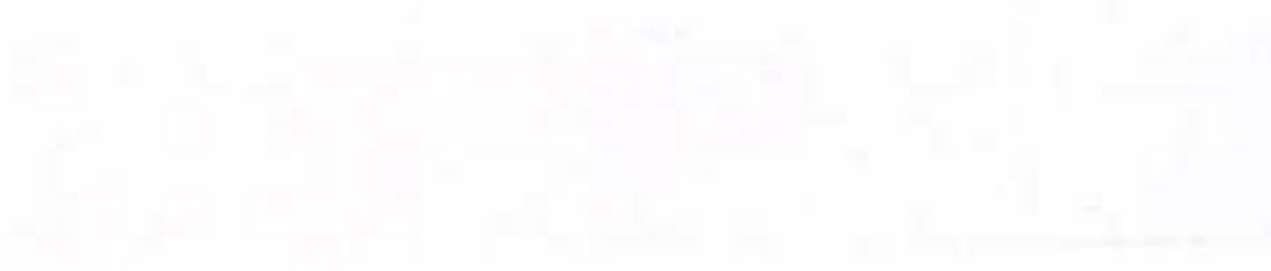
Conducted By:

Verified By:

B. PERFORMANCE CERTIFICATE:

Instrument Name : HORIBA MICROS ES 60
Serial Number : 209ESQH04697
Customer Details : ORBIT HEALTH CARE & DIAGNOSTIC
CENTER, GURGAON
with complete address
Installation Date : 20/08/19
Warranty expires on :

Prepared by:	HORIBA Medical - HORIBA India Pvt. Ltd.		
Name:	Hemendra Katara		
Title: Application Specialist	Sign: 		
Reviewed by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Sign: 	Date: 17/08/22	
Approved by:	ORBIT HEALTH CARE & DIAGNOSTIC CENTER, GURGAON		
Name:	PAWAN SHARMA		
Title:	Sign: 	Date: 17/08/22	



HORIBA

Explore the future

HORIBA India Private Ltd.

246, Okhla Industrial
Estate, Phase - III 110
020 New Delhi, India

Tel: +91 (11) 4646 5000 / 4669 5001

Fax: +91 (11) 4669 5010 / 4646 5020

HIN/MED/2022-2023/100654

10th Aug 2022

CALIBRATION CERTIFICATE

This is to certify that the Hematology Analyzer **ABX PENTRA XL80** bearing serial number: **209ESOH04697** installed at **Orbit Health Care & Diagnostics Centre, Gurugram** as calibrated on **10th Aug 2022**

Calibrator : ABX MINOCAL
Lot No. : CX473
Expiry Date : 05th Sep 2022

The reports of Blank Cycle, Repeatability and Calibration Values were all found in acceptable range.

Next calibration cycle is due on 09th Aug 2023.



Shrish Dixit
(Head- Products & Marketing)

For **Horiba India Pvt. Ltd.**

Calibration result 1/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.65	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.7	%
PLT	(235)	232	$10^3/\text{mm}^3$
MPV	(8.4)	8.5	μm^3



Calibration result 2/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.62	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.4	%
PLT	(235)	228	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



Calibration result 3/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.64	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.6	%
PLT	(235)	236	$10^3/\text{mm}^3$
MPV	(8.4)	8.8	μm^3



Calibration result 4/6

WBC	(9.0)	8.8	$10^3/\text{mm}^3$
RBC	(4.46)	4.59	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.3	%
PLT	(235)	234	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



Calibration result 5/6

WBC	(9.0)	8.8	$10^3/\text{mm}^3$
RBC	(4.46)	4.62	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.4	%
PLT	(235)	238	$10^3/\text{mm}^3$
MPV	(8.4)	8.5	μm^3



Calibration result 6/6

WBC	(9.0)	8.9	$10^3/\text{mm}^3$
RBC	(4.45)	4.60	$10^6/\text{mm}^3$
HGB	(13.3)	13.0	g/dl
HCT	(37.5)	38.2	%
PLT	(235)	249	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



	WBC 10 ³ /mm ³	RBC 10 ⁶ /mm ³	HGB g/dL	HCT %	PLT 10 ³ /mm ³	MPV μm ³
Average	8.8	4.62	12.9	38.4	237	8.5
%BAL	2.4	3.49	2.8	2.3	1	1.1
CV	0.9	0.38	0.3	0.3	3	1.7
New Coef	1.02	0.80	1.33	1.03	0.99	0.90
Old Coef	1.00	0.83	1.29	1.05	1.00	0.91
Target	9.0	4.46	13.3	37.5	235	8.4
1	8.7	4.63	12.9	38.4	228	8.4
2	8.7	4.64	12.9	38.4	236	8.9
3	8.8	4.59	12.9	38.1	234	8.4
4	8.8	4.62	12.9	38.4	238	8.5
5	8.9	4.60	13.0	38.2	249	8.4
6						
7						
8						
9						
10						
11						



Calibration result

Date: 10/08/2022 Operator: tech Lot number: CX473 Name: MINOCAL

Summary view



Stat	WBC 10 ³ /mm ³	RBC 10 ⁶ /mm ³	HGB g/dL	HCT %	PLT 10 ³ /mm ³	MPV μm ³
Average	8.8	4.62	12.9	38.4	237	8.5
Target	9.0	4.46	13.3	37.5	235	8.4
CV	0.9	0.38	0.3	0.3	3	1.7
%BAL	2.4	3.49	2.8	2.3	1	1.1
Coef						
Old	1.00	0.83	1.29	1.05	1.00	0.91
Auto	1.02	0.60	1.33	1.03	0.99	0.90
Manu						



Sample ID : MX436N

Date : 10/05/2022

Name : NORMAL

Time : 13:32

Expiry date : 05/10/2022

Alarms :

WBC $10^9/mm^3$ 7.4

RBC $10^9/mm^3$ 4.50

PLT $10^9/mm^3$ 266

LYM% % 36.0

HGB g/dL 13.7

MPV μm^3 8.4

MON% % 7.4

HCT % 37.3

GRA% % 56.6

MCV μm^3 83

LYM# $10^9/mm^3$ 2.60

MCH pg 30.4

MON# $10^9/mm^3$ 0.50

MCHC g/dL 36.7

GRA# $10^9/mm^3$ 4.30

RDW % 12.0



Next Sample

Sample ID

AUTOSID056

Type

Man



Sample ID : MX435L

Date : 10/08/2022

Name : ABXMinotrol16L

Time : 13:43

Expiry date : 05/10/2022

Alarms :

WBC $10^3/\text{mm}^3$ 2.0

LYM% % 64.7

MON% % 8.4

GRA% % 26.9

LYM# $10^3/\text{mm}^3$ 1.30

MON# $10^3/\text{mm}^3$ 0.10

GRA# $10^3/\text{mm}^3$ 0.60

RBC $10^6/\text{mm}^3$ 2.22

HGB g/dL 5.8

HCT % 15.9

MCV μm^3 72

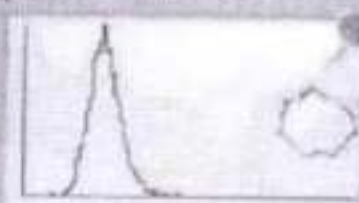
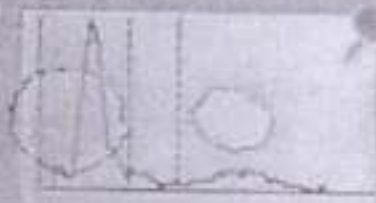
MCH pg 26.1

MCHC g/dL 36.4

RDW % 14.2

PLT $10^3/\text{mm}^3$ 67

MPV μm^3 7.8



Next Sample

Sample ID

AUTOSID056

Type

Man



	WBC	RBC	HGB	HCT	PLT	MPV
	$10^3/mm^3$	$10^6/mm^3$	g/dL	%	$10^3/mm^3$	μm^3
Average	8.8	4.62	12.9	38.4	237	8.5
%BAL	2.4	3.49	2.9	2.3	2	1.1
CV	0.9	0.38	0.3	0.3	3	1.7
New Coef	1.02	0.80	1.33	1.03	0.99	0.90
Old Coef	1.00	0.83	1.29	1.05	1.00	0.92
Target	9.0	4.46	13.3	37.5	235	8.4
1	8.7	4.65	12.9	38.7	232	8.5
2	8.7	4.62	12.9	38.4	228	8.4
3	8.7	4.64	12.9	38.8	236	8.8
4	8.8	4.59	12.9	38.4	234	8.4
5	8.8	4.62	12.9	38.4	238	8.5
6	8.9	4.60	13.0	38.7	249	8.4
7						
8						
9						
10						
11						



Calibration result 1/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.65	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.7	%
PLT	(235)	232	$10^3/\text{mm}^3$
MPV	(8.4)	8.5	μm^3



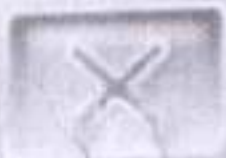
Calibration result 2/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.62	$10^6/\text{mm}^3$
HGB	(13.8)	12.9	g/dl
HCT	(37.5)	38.4	%
PLT	(235)	228	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



Calibration result 3/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.64	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.6	%
PLT	(235)	236	$10^3/\text{mm}^3$
MPV	(8.4)	8.8	μm^3



Calibration result 3/6

WBC	(9.0)	8.7	$10^3/\text{mm}^3$
RBC	(4.46)	4.64	$10^6/\text{mm}^3$
HGB	(13.8)	12.9	g/dl
HCT	(37.5)	38.6	%
PLT	(235)	236	$10^3/\text{mm}^3$
MPV	(8.4)	8.8	μm^3



Calibration result 4/6

WBC	(9.0)	8.8	$10^3/\text{mm}^3$
RBC	(4.46)	4.59	$10^6/\text{mm}^3$
HGB	(13.3)	12.9	g/dl
HCT	(37.5)	38.3	%
PLT	(235)	234	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



Calibration result 5/6

WBC	(9.0)	8.8	$10^3/\text{mm}^3$
RBC	(4.46)	4.62	$10^6/\text{mm}^3$
HGB	(13.8)	12.9	g/dl
HCT	(37.5)	38.4	%
PLT	(235)	238	$10^3/\text{mm}^3$
MPV	(8.4)	8.5	μm^3



Calibration result 6/6

WBC	(9.0)	8.9	$10^3/\text{mm}^3$
RBC	(4.46)	4.60	$10^6/\text{mm}^3$
HGB	(13.3)	13.0	g/dl
HCT	(37.5)	38.2	%
PLT	(235)	249	$10^3/\text{mm}^3$
MPV	(8.4)	8.4	μm^3



Sample ID : MX436N

Date : 10/08/2022

Name : NORMAL

Time : 13:32

Expiry date : 05/10/2022

ALARMS

WBC $10^9/\text{mm}^3$ 7.4

RBC $10^9/\text{mm}^3$ 4.50

PLT $10^9/\text{mm}^3$ 265

LYM% % 36.0

HGB g/dL 13.7

MPV μm^3 8.4

MON% % 7.4

HCT % 37.3

GRA% % 56.6

MCV μm^3 83

MCH pg 30.4

LYM# $10^9/\text{mm}^3$ 2.60

MCHC g/dL 35.7

MON# $10^9/\text{mm}^3$ 0.50

RDW % 12.8

GRA# $10^9/\text{mm}^3$ 4.30



Next Sample

Sample ID
AUTOSID056

Type
Man



Sample ID : MX436L

Date : 10/08/2022

Name : ABXMinotrol15 L

Time : 13:43

Expiry date : 05/10/2022

Alarms :

WBC $10^3/\text{mm}^3$ 2.0

LYM% % 64.7

MON% % 8.4

GRA% % 26.9

LYM# $10^3/\text{mm}^3$ 1.30

MON# $10^3/\text{mm}^3$ 0.10

GRA# $10^3/\text{mm}^3$ 0.60

RBC $10^6/\text{mm}^3$ 2.22

HGB g/dL 5.8

HCT % 15.9

MCV μm^3 72

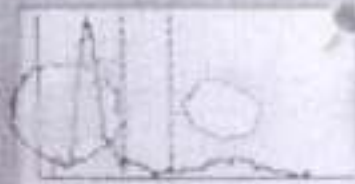
MCH pg 26.1

MCHC g/dL 36.4

RDW % 14.2

PLT $10^3/\text{mm}^3$ 67

MPV μm^3 7.8



Next
Sample

Sample ID

AUTOSID056

Type

Man

