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/2022-2023/100717
02nd Dec 2022

CALIBRATION CERTIFICATE

This is to certify that the Hematology Analyzer **ABX YUMIZEN H550** bearing serial number: **110YAXH03529** installed at **Tata 1MG Pvt ltd. Dehradun** calibrated on **02nd Dec 2022**

Calibrator : ABX MINOCAL
Lot No. : CX477
Expiry Date : 05th Jan 2023

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

Next calibration cycle is due on **01st Dec 2023.**

Shrish Dixit
(Head- Products & Marketing)
For **Horiba India Pvt. Ltd.**

Repeatability Report (part 1)

Number of repeatability run report selected for statistic calculation 6/16

Coefficient	WBC ($10^3/\mu L$)	RBC ($10^6/\mu L$)	HGB (g/dL)	HCT (%)	PLT ($10^3/\mu L$)	MCV (μm^3)	RDW-CV (%)	RDW-SD (μm^3)	P-LCR (%)
Minimum	7.89	4.94	9.7	31.0	278	62.6	15.9	35.3	35.4
Maximum	8.37	5.05	9.9	31.7	305	63.0	16.3	36.1	39.1
Mean	8.19	4.99	9.8	31.3	294	62.8	16.0	35.4	37.0
Difference	0.48	0.11	0.2	0.7	27	0.3	0.4	0.8	3.8
2 SD	0.38	0.08	0.2	0.6	18	0.2	0.3	0.7	2.6
CV(%)	2.34	0.84	1.07	0.92	3.02	0.19	0.85	0.97	3.46

Sel	Run Date &Time	WBC ($10^3/\mu L$)	RBC ($10^6/\mu L$)	HGB (g/dL)	HCT (%)	PLT ($10^3/\mu L$)	MCV (μm^3)	RDW-CV (%)	RDW-SD (μm^3)	P-LCR (%)	Operator
✔	12/02/2022 06:28:12 PM	8.28	4.97	9.7	31.1	296	62.6	15.9	35.3	36.5	1MG
✔	12/02/2022 06:33:22 PM	7.89	5.02	9.8	31.6	278	63.0	15.9	35.3	36.4	1MG
✔	12/02/2022 06:37:59 PM	8.28	4.94	9.7	31.0	297	62.9	16.3	36.1	37.6	1MG
✔	12/02/2022 06:48:37 PM	8.00	4.98	9.7	31.3	294	62.9	16.0	35.3	35.4	1MG
✔	12/02/2022 06:52:15 PM	8.37	4.96	9.9	31.1	305	62.7	16.0	35.3	37.3	1MG
✔	12/02/2022 06:54:42 PM	8.29	5.05	9.9	31.7	296	62.8	16.0	35.3	39.1	1MG
	03/30/2023 11:21:41 AM	6.84	4.98	13.1	40.2	361 *	80.6	13.3	37.8	28.3	1MG
	03/30/2023 11:23:14 AM	6.83	4.88	13.1	39.2	344	80.2	13.3	37.8	28.1	1MG
	03/30/2023 11:24:48 AM	6.97	4.87	13.4	39.0	341	80.1	13.3	37.8	30.1	1MG
	03/30/2023 11:26:25 AM	6.92	4.85	13.3	39.5	346	81.3	13.9	39.5	28.4	1MG
	03/30/2023 11:28:04 AM	6.87	4.89	13.1	39.6	348	81.0	13.6	38.6	28.7	1MG
	04/05/2023 10:25:09 AM	6.07	4.96	14.4	43.4	263	87.5	15.3	47.9	30.6	1MG
	04/05/2023 10:26:44 AM	6.28	4.94	14.4	43.0	254	87.0	15.1	47.0	28.7	1MG
	04/05/2023 10:28:19 AM	6.11	4.93	14.3	43.0	249	87.2	14.6	46.2	29.3	1MG
	04/05/2023 10:29:52 AM	6.04	4.94	14.4	43.1	247	87.2	14.7	46.2	31.3	1MG
	04/05/2023 10:31:40 AM	6.14	4.88	14.2	42.6	253	87.3	14.4	45.4	30.6	1MG

Repeatability Report (part 2)

Number of repeatability run report selected for statistic calculation 6/16

Coefficient	NEU% (%)	LYM% (%)	MON% (%)	EOS% (%)	BAS% (%)	LIC% (%)
Minimum	75.0	11.6	9.7	0.1	0.2	0.6
Maximum	77.7	12.8	12.3	0.2	0.5	0.9
Mean	76.5	12.3	10.7	0.2	0.4	0.7
Difference	2.8	1.2	2.6	0.1	0.3	0.3
2 SD	1.9	0.8	1.8	0.1	0.2	0.2
CV(%)	1.27	3.41	8.30	36.51	28.17	14.08

Sel	Run Date &Time	NEU% (%)	LYM% (%)	MON% (%)	EOS% (%)	BAS% (%)	LIC% (%)	Operator
✔	12/02/2022 06:28:12 PM	77.7	11.6	10.3	0.1	0.3	0.6	1MG
✔	12/02/2022 06:33:22 PM	76.8	12.1	10.5	0.1	0.5	0.7	1MG
✔	12/02/2022 06:37:59 PM	76.7	12.4	10.4	0.1	0.4	0.7	1MG
✔	12/02/2022 06:48:37 PM	75.8	12.6	11.0	0.2	0.4	0.9	1MG
✔	12/02/2022 06:52:15 PM	76.9	12.8	9.7	0.2	0.4	0.8	1MG
✔	12/02/2022 06:54:42 PM	75.0	12.3	12.3	0.2	0.2	0.7	1MG
	03/30/2023 11:21:41 AM	37.7	51.3	8.2	1.5	1.3	0.4	1MG
	03/30/2023 11:23:14 AM	38.3	50.1	8.5	1.7	1.4	0.2	1MG
	03/30/2023 11:24:48 AM	38.0	50.8	8.3	1.6	1.3	0.4	1MG
	03/30/2023 11:26:25 AM	38.6	49.5	8.3	1.8	1.8	0.3	1MG
	03/30/2023 11:28:04 AM	38.1	52.2	7.0	1.1	1.6	0.4	1MG
	04/05/2023 10:25:09 AM	50.6	39.1	6.6	2.3	1.4	0.2	1MG
	04/05/2023 10:26:44 AM	52.2	38.2	5.9	2.3	1.4	0.3	1MG
	04/05/2023 10:28:19 AM	50.9	38.6	6.3	2.7	1.5	0.3	1MG
	04/05/2023 10:29:52 AM	51.8	38.3	5.9	2.2	1.8	0.6	1MG
	04/05/2023 10:31:40 AM	51.1	39.6	6.2	2.0	1.1	0.6	1MG

Calibration Report

Sample ID CX477
Lot number CX477

Name ABX MINOCAL

Exp. date 01/05/2023
Modified on

Coefficient	WBC	RBC	HGB	HCT	PLT	MPV
New	1.136	0.996	0.988	1.042	1.078	1.028
Current	1.136	0.996	0.988	1.042	1.078	1.028
Target	8.78	4.62	13.6	39.3	270	11.1
Mean	8.82	4.64	13.6	39.2	263	11.3
CV(%)	1.19	0.68	0.82	0.90	3.54	0.96

Number of calibration run selected for coefficient calculation (minimum 5) 5/7

Sel.	Run Time	WBC ($10^3/\mu L$)	RBC ($10^6/\mu L$)	HGB (g/dL)	HCT (%)	PLT ($10^3/\mu L$)	MPV (μm^3)
✔	12/02/2022 12:57:52 PM	8.86	4.67	13.7	39.4	266	11.4
✔	12/02/2022 12:59:27 PM	8.72	4.67	13.5	39.7	275	11.1
✔	12/02/2022 01:01:06 PM	8.72	4.64	13.7	39.1	264	11.3
✔	12/02/2022 01:02:45 PM	8.97	4.63	13.7	39.2	250 I	11.3
	12/02/2022 01:04:24 PM	8.88	4.59	13.3 I	38.6	262	11.2
	12/02/2022 01:06:04 PM	8.81	4.55 I	13.1 I	38.5	258 I	11.4
✔	12/02/2022 01:08:08 PM	8.81	4.59	13.5	38.8	259 I	11.3

QC - Control Run Report

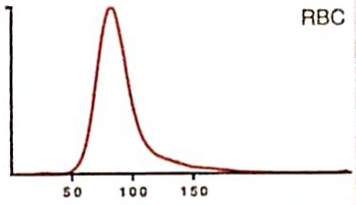
Run Date 12/02/2022 01:41:03 PM
Operator technician

Name PX438H
Level High
Lot number PX438H

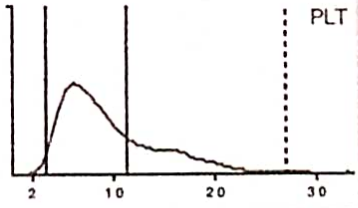
Sample ID PX438H
Exp. date 01/05/2023

Alarms

			Range
RBC	5.21	$10^6/\mu L$	5.04 - 5.54
HGB	15.7	g/dL	15.5 - 16.7
HCT	48.6	%	46.2 - 51.2
MCV	93.2	μm^3	87.0 - 97.0
MCH	30.2	pg	27.9 - 32.9
MCHC	32.4	g/dL	30.1 - 36.1
RDW-CV	13.7	%	10.5 - 18.5

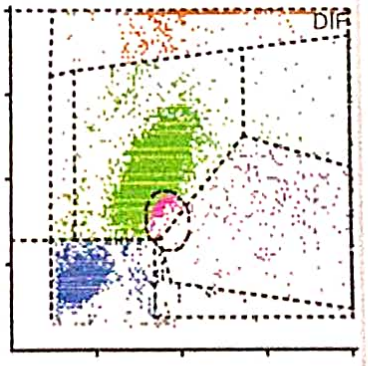


			Range
PLT	493	$10^3/\mu L$	440 - 540
MPV	9.1	μm^3	7.0 - 11.0



			Range
WBC	18.16	$10^3/\mu L$	15.70 - 20.10

	#	Range	%	Range
NEU	12.81	10.50 -	70.5	59.3 - 79.3
LYM	3.87	2.29 - 5.29	21.3	13.2 - 29.2
MON	0.46	0.01 - 1.07	2.6	0.0 - 6.0
EOS	0.77	0.03 - 1.33	4.2	0.1 - 7.5
BAS	0.25	0.00 - 0.96	1.4	0.0 - 5.4



Raw Data

PLT counts (by sections)

S1	S2	S3	S4	S5	S6
400	428	412	430	414	470
S7	S8	S9	S10	S11	S12
375	408	412	414	439	438

RBC counts (by sections)

S1	S2	S3	S4	S5	S6
4409	4336	4450	4495	4369	4372
S7	S8	S9	S10	S11	S12
4368	4379	4419	4437	4421	4387

WBC counts (by sections) and others

S1	S2	S3	S4	S5	S6
1284	1122	1168	1133	1140	1186
S7	S8	S9	S10	S11	
1171	1153	1204	1168	1178	

RMeasured : 10677
Correlated : 10519
Optical intensity 193

HBG measures (Optical Intensity)

LI1	LI2	LI3	LI4	LI5	LI6
3844	3845	3845	691	692	691
LI7	LI8	LI9	LI10	LI11	LI12
691	692	692	693	693	694
LI13					
693					

QC - Control Run Report

Run Date 12/02/2022 01:46:57 PM

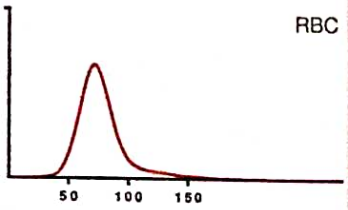
Operator technician

Name PX438L
Level Low
Lot number PX438

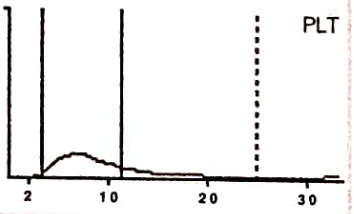
Sample ID PX438L
Exp. date 01/05/2023

			Range
RBC	2.35	$10^6/\mu L$	2.18 - 2.50
HGB	6.2	g/dL	5.8 - 6.6
HCT	18.9	%	17.2 - 20.2
MCV	80.7	μm^3	75.0 - 85.0
MCH	26.3	pg	24.5 - 28.5
MCHC	32.5	g/dL	30.1 - 36.1
RDW-CV	17.2	%	13.0 - 21.0

Alarms

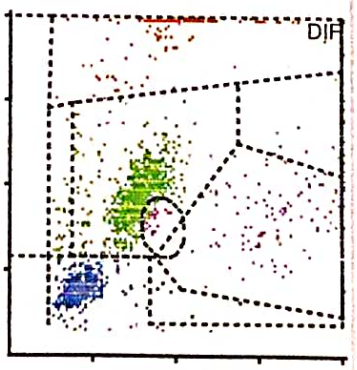


			Range
PLT	66	$10^3/\mu L$	45 - 85
MPV	9.4	μm^3	7.5 - 11.5



			Range
WBC	3.30	$10^3/\mu L$	2.55 - 3.35

	#	Range	%	Range
NEU	1.58	1.02 - 1.72	48.0	36.3 - 56.3
LYM	1.18	0.77 - 1.43	35.8	25.2 - 49.2
MON	0.20	0.01 - 0.43	6.0	0.0 - 15.0
EOS	0.30	0.00 - 0.38	9.0	0.3 - 12.7
BAS	0.04	0.01 - 0.13	1.2	0.4 - 4.6



Raw Data

PLT counts (by sections)

S1	S2	S3	S4	S5	S6
55	79	79	100	89	104
S7	**S8**	**S9**	**S10**	**S11**	**S12**
71	72	92	96	86	92

RBC counts (by sections)

S1	S2	S3	S4	S5	S6
2190	2197	2201	2213	2165	2153
S7	**S8**	**S9**	**S10**	**S11**	**S12**
2196	2148	2157	2120	2161	2126

WBC counts (by sections) and others

S1	S2	S3	S4	S5	S6
209	208	234	224	220	204
S7	**S8**	**S9**	**S10**	**S11**	
216	205	246	189	210	

RMeasured : 2141
Correlated : 2091
Optical intensity 193

HBG measures (Optical intensity)

LI1	LI2	LI3	LI4	LI5	LI6
3846	3845	3846	1906	1905	1905
LI7	**LI8**	**LI9**	**LI10**	**LI11**	**LI12**
1905	1905	1905	1904	1905	1905
LI13					
1904					

QC - Control Run Report

Run Date 12/02/2022 01:48:45 PM

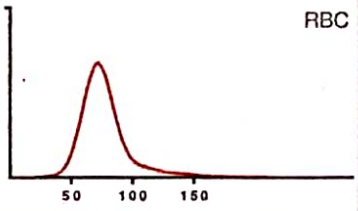
Operator technician

Name PX438L
Level Low
Lot number PX438

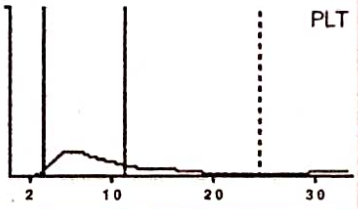
Sample ID PX438L
Exp. date 01/05/2023

			Range
RBC	2.30	$10^6/\mu L$	2.18 - 2.50
HGB	6.1	g/dL	5.8 - 6.6
HCT	18.5	%	17.2 - 20.2
MCV	80.4	μm^3	75.0 - 85.0
MCH	26.4	pg	24.5 - 28.5
MCHC	32.8	g/dL	30.1 - 36.1
RDW-CV	16.5	%	13.0 - 21.0

Alarms

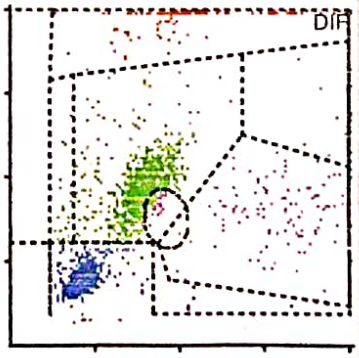


			Range
PLT	70	$10^3/\mu L$	45 - 85
MPV	9.4	μm^3	7.5 - 11.5



			Range
WBC	3.09	$10^3/\mu L$	2.55 - 3.35

	#	Range	%	Range
NEU	1.53	1.02 - 1.72	49.5	36.3 - 56.3
LYM	1.09	0.77 - 1.43	35.3	25.2 - 49.2
MON	0.19	0.01 - 0.43	6.2	0.0 - 15.0
EOS	0.25	0.00 - 0.38	8.1	0.3 - 12.7
BAS	0.03	0.01 - 0.13	0.9	0.4 - 4.6



Raw Data

PLT counts (by sections)

S1	S2	S3	S4	S5	S6
82	103	90	87	88	93
S7	**S8**	**S9**	**S10**	**S11**	**S12**
75	70	79	93	92	101

RBC counts (by sections)

S1	S2	S3	S4	S5	S6
2097	2146	2210	2121	2120	2164
S7	**S8**	**S9**	**S10**	**S11**	**S12**
2191	2118	2071	2113	2087	2173

WBC counts (by sections) and others

S1	S2	S3	S4	S5	S6
192	206	208	229	171	208
S7	**S8**	**S9**	**S10**	**S11**	
186	199	193	209	216	

RMeasured : 2114
Correlated : 2055
Optical Intensity 193

HBG measures (Optical Intensity)

LI1	LI2	LI3	LI4	LI5	LI6
3826	3845	3848	1924	1924	1924
LI7	**LI8**	**LI9**	**LI10**	**LI11**	**LI12**
1923	1923	1923	1923	1922	1922
LI13					
1921					

Blank Cycle Logs

Running Date Comments	Operator	WBC $10^3/\mu L$	RBC $10^6/\mu L$	HGB g/dL	PLT $10^3/\mu L$	Status	Technical alarms
12/02/2022 09:42:24 AM	1MG	0.00	0.00	0.0	0	Passed	
12/02/2022 09:50:33 AM	1MG	0.00	0.00	0.0	0	Passed	
12/02/2022 12:16:20 PM	1MG	0.00	0.00	0.0	1	Passed	

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Notification No.	
Work Order No.	

HORIBA CARE
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SERVICE REPORT

CUSTOMER COPY

HIN-M028337

CUSTOMER DETAILS	INSTRUMENT DETAILS			SERVICE STATUS
NAME: Tata Motors Lab	MODEL : Yumizen H350			VISITING PURPOSE: ☐ REPAIR ☐ DATA ERROR ☐ INSTALLATION ☐ MAINTENANCE ☐ UPGRADE ☐ CUSTOMER TRAINING ☐ COURTESY VISIT ☐ DEMO ☐ OTHERS
ADDRESS: Chakrata Road	EQUIP. SL. No. : H04AXH03329			
PIN CODE	VERSION : 1.2.1.4			
CITY Dehradun	NOTIFICATION No.			
STATE Uttarakhand	CALL DETAILS	DATE	TIME	CUSTOMER STATUS ☐ R.R ☐ WARRANTY ☐ AMC ☐ CMC ☐ DEMO ☐ FREE SERVICE ☐ CHARGEABLE CALL ☐ OTHERS
TEL. NO.:	COMPLAINT RECD.	22/12/2022		
CONTACT PERSON : Dr. Anupriya	START	22/12/2022		
	COMPLETED	22/12/2022		
	TRAVEL TIME (Eng. 1)	01	HOURS	
	TRAVEL TIME (Eng. 2)		HOURS	WORKS CARRIED OUT AT ☐ SITE ☐ SERVICE CENTRE
	DAILY WORKLOAD	60+		

PROBLEM REPORTED : Calibration Due

OBSERVATIONS : Calibration Doing

ACTION TAKEN : Done Calibration of the Instrument as Per Technical Manual. Done Repeatability Ex. found Good. Run Calibrator and QC all found Good. Instrument working Normally.

☐ FOLLOWING PARTS HAVE BEEN REPLACED ☐ FOLLOWING PARTS NEED TO BE REPLACED PLEASE APPROVE

PART CODE.	DESCRIPTION (Replaced)	QTY.	COST	TAX	TOTAL
	CX 477 Ex Piercy - 05/01/2023				

PART CODE.	DESCRIPTION (Trouble Shooting)	QTY.	TOTAL RS.
			*Replaced for Trouble Shooting Need to be returned after Trouble Shooting.

FOLLOW-UP ACTION (Spare need to replaced, if any)

TO BE FILLED IN BY CUSTOMER

☐ FAULT RECTIFIED & INSTRUMENT IS WORKING SATISFACTORILY
☐ FAULT IS NOT COMPLETED, ENGINEER NEED TO COME AGAIN
☐ WE HEREBY APPROVE Rs. .....
☐ COMMENTS (IF ANY)

ENGINEER'S NAME-1: Vinod Kumar 82	ENGINEER'S NAME-2:
SIGNATURE: Vinod	SIGNATURE:
DATE & TIME:	DATE & TIME:

CUSTOMER SIGNATURE: Manoj 21 Dec 2022
NAME :
SEAL: