

ANALYZER CALIBRATION CERTIFICATE

CALIBRATION PROTOCOL

The purpose of this calibration protocol is to define the qualifications and the acceptance standard in order to verify the normal operation and function of the iCount5 Cell Counter in the laboratory. Trained knowledgeable personnel from Genworks Health Pvt. Ltd along with the department personnel will perform and review analyzer calibration protocol as mentioned by the manufacturer. The satisfactory outcome of this procedures assures that the system functions according to the parameters.

EQUIPMENT INFORMATION:-

Instrument Name	:	ICOUNT5 HEMATOLOGY ANALYZER (BF 6900)
Model/Type	:	5-Part Differentials Cell Counter DIRUI
Serial No	:	2206900BF0137
Installation Date	:	13.12.2023
Calibration Done On	:	24.05.2024
Next Calibration Due On	:	23.05.2025
Laboratory/Hospital	:	ASTRA NEST DIAGNOSTICS # 21/8,Chikka sanjeevappa Building Konanakunte Cross, Kanakapura Main Road , Bangalore – 560062. Tel: 0431 330 7069.
Supported By	:	Genworks Health Pvt Ltd, Survey No 525/1 & 538/1, V.S Mani Nagar, Madhavaram, Chennai-600060.

GENWORKS HEALTH PVT LTD

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CIN :U24230KA2015PTC078753 | www.genworkshealth.com

CALIBRATION AND MAINTAINANCE PROCEDURES

This is to certify that this Analyzer has been inspected and calibrated for following parameters

PARAMETER	UNIT	LOWER BOUND	UPPER BOUND	OBTAINED VALUE
INPUT VOLTAGE	V	220	240	231
HGB LIGHT	Count	3000	60000	6991
HGB DARK	Count	0	3000	0
ELECTRODE VOLTAGE	V	45	55	51.5
CURRENT	μA	500	930	660.2
OFFSET	mV	-5	5	-2.4
AMPLIFIER TEST	count	19990	20005	20001
PEAK OF TEST PULSES	mV	1500	1800	
DEVIATION (NOISE)	mV	0	80	64
NOISE TEST	pls/5sec	0	5	0
OUTER PRESSURE	mBar	500	1050	874
VACUUM MAX/MIN	mBar	125	420	226.7/227.3
DRIFT	mBar/10sec	0	10	0.4
POWER +12V	V	11	12.5	12.2
POWER -12V	V	-13	-11	-12.5
POWER BATT.	V	1.8	4.5	3.9

CALIBRATION PROTOCOL:

- Performed automated calibration procedures with three measure sample mode calibration using Normal control and specified control values are loaded in the machine, results and calibration factors are also loaded.
- Verified Low, Normal and High Control values. RBC, WBC, HGB & PLT histogram were also checked for the controls.

MAINTAINANCE PROTOCOL:

- Cleaned auto sampler centering collar, rail assembly.
- Checked mix rails spring tension and car wheels for wear
- Needle height and position were calibrated.
- Checked the movement of manual sampler mode rotor.
- Cleaned the inlets of hydraulic valves.
- Checked the syringe pumps.
- Cleaned the mixing chambers, reagent tubing, RBC, WBC, and HGB chambers.
- Connection of tubing's, valves, pump, reagent connectors, float tube, apertures are cleaned.
- Checked the reagent straw filter assemblies.
- Performed hard cleaning and manual system wash.
- All moving parts were lubricated.
- Power on at rated voltage, and checked software start and version. HW, SW, LCD, and beeper operation were checked touch screen calibration was also done.
- Performed self-test and it is loaded in the machine.

REPORTS: -

The controls results are obtained as per specifications & tolerance ranges. Verified the calibration & controls results according to the specific limits and considered the satisfactory results herewith certificate that iCount5 Hematology Analyzer operates correctly according to the instrument specifications.

Report Sign Off:

Calibration Done By: Mr. Balachandhar S

Designation: Service Engineer

Date & Sign: 24.05.2024

For
Mr. Balachandhar S
(M. BALACHANDHAR)

Note: Supportive date to be attached along with this certificate.

Whole

Motor

	Detection	Test status		Detection	Test status
Aspirating	Detection	Succeeded	Sheath motor	Detection	Succeeded
Rotating	Detection	Succeeded			
Sample adding	Detection	Succeeded			
Rinsing	Detection	Succeeded			

Valve

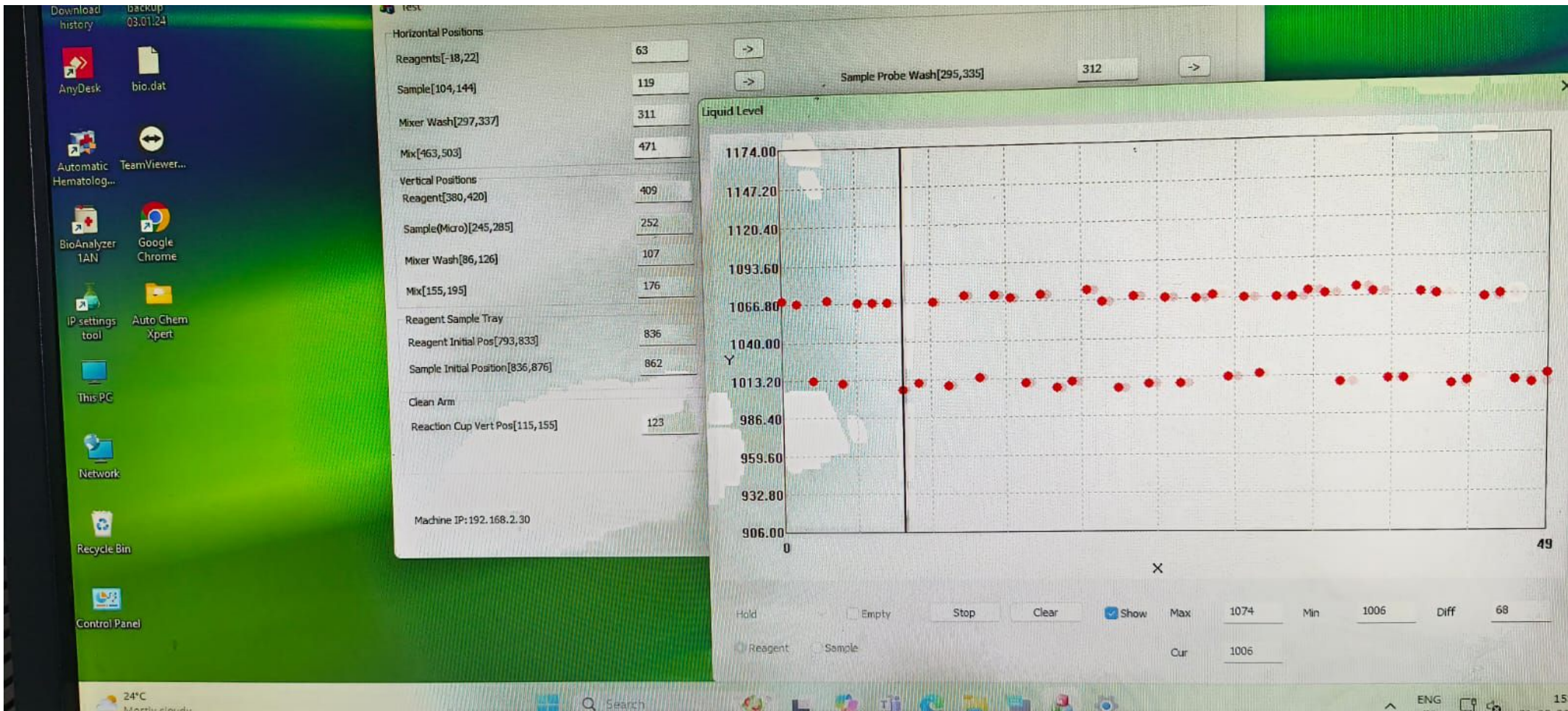
SV1	SV2	SV3	SV4	SV5	SV6	SV7
SV8	SV9	SV10	SV11	SV12	SV13	SV14
SV15	SV16	SV17	SV18	SV19	SV20	SV28
SV29	SV30	SV31				

Valve

Auto-check	Detection	Succeeded
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Pump

Pump	Positive pressure	Negative pressure
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Mixer Wash[297,337] 311

Mix[463,503] 471

Vertical Positions

Reagent[380,420] 409

Sample(Micro)[245,285] 252

Mixer Wash[86,126] 107

Mix[155,195] 176

Reagent Sample Tray

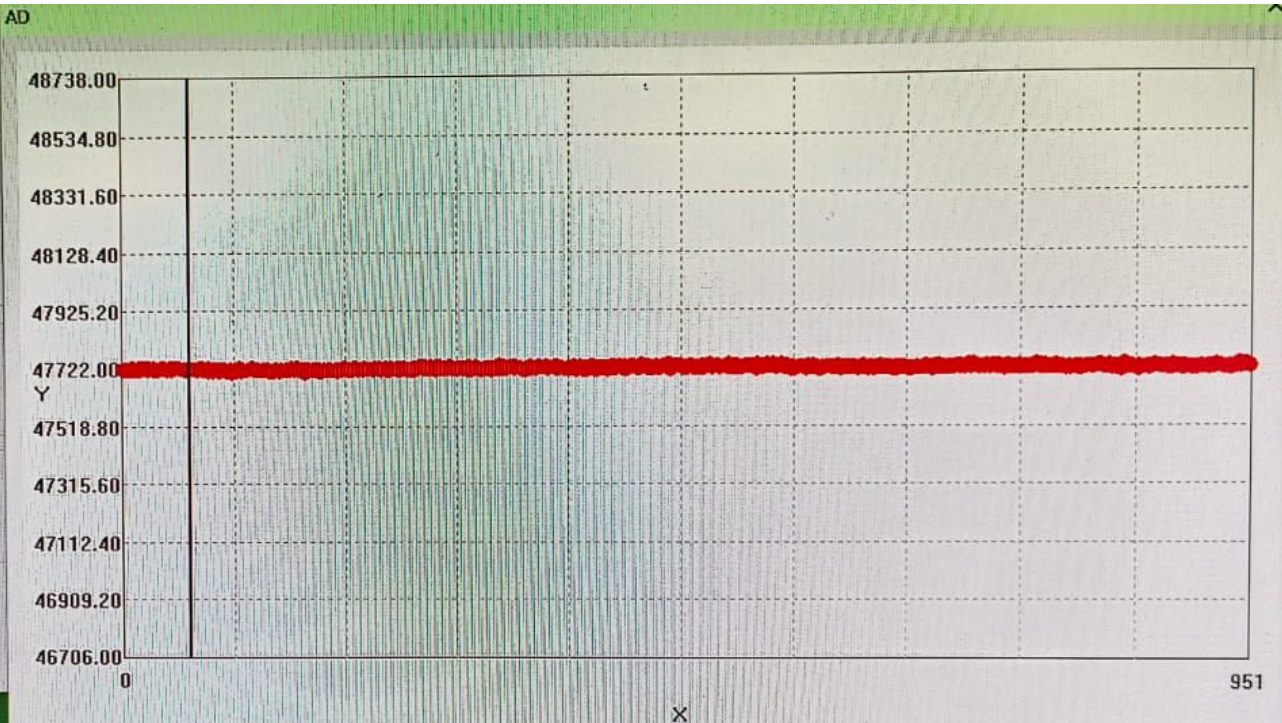
Reagent Initial Pos[793,833] 836

Sample Initial Position[836,876] 862

Clean Arm

Reaction Cup Vert Pos[115,155] 123

Machine IP: 192.168.2.30



Period 1 340 Stop Clear Show Max 47738 Min 47706 Diff 32

340	450	546	630	700	578	505	405	8#	9#	10#	11#
47729	49890	50089	49007	48814	49049	48337	47753	65535	65535	65535	65535

Mix[463,503]

Vertical Positions

Reagent[380,420] 409 ->

Sample(Micro)[245,285] 252 ->

Mixer Wash[86,126] 107 ->

Mix[155,195] 176 ->

Reagent Sample Tray

Reagent Initial Pos[793,833] 836 ->

Sample Initial Position[836,876] 862 ->

Clean Arm

Reaction Cup Vert Pos[115,155] 123 ->

Sample(Standard)[380,420] 411

Sample Probe Wash[30,70] 50

Sample Dispense[27,87] 45

Reagent Scanner Initial Pos(Pos.1) 1027

Sample Scanner Initial Pos(Pos.1) 1042

Detergent Clean Time[10,500] 480

Machine IP: 192.168.2.30

Machine Info. AD Lic

Select Cell Debug Set

Disk Check

No.	Value
1	437
2	437
3	436
4	437
5	438
6	435
7	437
8	436
9	435
10	437
11	438
12	436
13	437
14	436
15	438
16	436
17	436
18	438
19	436
20	435
21	436

Min. 23 434 Ref. 436.4

Max. 40 439

Check Cancel