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LABORATORY, PHARMA, SURGICAL, MEDICAL EQUIPMENTS, DISPOSABLES AND GLASS WARES

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 AD 3200 PLUS Hematology analyzer in the laboratory. Trained knowledgeable personnel from DISHA DISTRIBUTORS Bangalore along with the department personnel will perform and review analyzer calibration protocol as mentioned by the manufacturer. The satisfactory outcome of this procedure assures that the system functions according to the parameters.

EQUIPMENT INFORMATION:-

Instrument Name : HEMATOLOGY ANALYZER
Model/Type : AD 3200 PLUS
Serial No : 3200PET/00385
Installation Date : 25.02.2023
Calibration Done On : 30.07.2024
Next Calibration Due On : 29.07.2025
Laboratory/Hospital : CURA HOSPITALS (A UNIT OF AMBARA)
KAMMANAHALLI
BANGALORE-560043
Supported By : DISHA DISTRIBUTORS
HOSAKERE HALLI GIRINAGAR
BANGALORE-560085



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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	μ A	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



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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 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.



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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 HMT 60P Hematology Analyzer operates correctly according to the instrument specifications

BACKGROUND CHECK

PARAMETERS	RESULT	Range
WBC	0.0	0.3×10^3 U/l or Less
RBC	0.00	0.02×10^6 /uL or Less
HGB	0.0	0.1 g/dL or Less
PLT	0	05×10^3 /uL or Less



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**PRECISION STUDY PERFORMED ON THE ANALYZER USING MINDRAY SC-CAL PLUS HEMATOLOGY
CALIBRATOR (LOT: PLUS0724)**

SL.NO.	WBC	RBC	HGB	MCV	PLT
1	10.0	4.61	13.3	87.0	239
2	10.1	4.66	13.3	87.1	246
3	10.3	4.69	13.4	86.8	249
4	10.1	4.69	13.3	87.0	242
5	10.5	4.67	13.3	86.9	246
6	10.2	4.65	13.4	87.1	239
7	10.4	4.62	13.4	87.0	250
8	10.3	4.61	13.3	86.9	240
9	10.1	4.64	13.3	86.9	237
10	10.4	4.69	13.5	86.9	246
Mean	10.2	4.65	13.3	87.0	243
CV%	1.61	0.69	0.53	0.11	1.88
New Cal%	96.4	101.2	101.0	102.3	115.2



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QC DATA

SL.NO	Test content	Test Names	Ranges	Test Results
01	Control Low	WBC	2.6 – 3.6	2.9
		RBC	2.33 – 2.73	2.57
		HGB	6.7 – 7.7	7.3
		MCV	73.3 – 86.3	78.5
		PLT	49 – 99	89
02	Control Normal	WBC	7.3 – 9.3	7.7
		RBC	4.27 – 4.87	4.65
		HGB	12.9 -14.1	13.8
		MCV	78.5 – 90.5	83.0
		PLT	157 – 247	230
03	Control High	WBC	14.0 – 19.0	16.6
		RBC	5.40 – 6.20	5.80
		HGB	17.4 – 19.0	18.7
		MCV	81.8 – 93.8	87.8
		PLT	339 – 469	469

Report Sign Off:

Calibration Done By: Mr. Dhananjaya S.K

Designation: Service Engineer

Date & Sign: 30.07.2024

Dhananjaya S.K

Manual

Calibrator

Fresh Blood

Diluent

Sample

Review

QC

Calibration

Service

Setting

Shutdown

Whole Blood

Para	Factor(%)	Date
WBC	105.71	01-08-2024
RBC	105.88	01-08-2024
HGB	101.82	30-07-2024
MCV	109.31	01-08-2024
PLT	116.59	01-08-2024

Pre-Diluted

Para	Factor(%)	Date
WBC	100.00	16-09-2022
RBC	100.00	16-09-2022
HGB	100.00	16-09-2022
MCV	100.00	16-09-2022
PLT	100.00	16-09-2022

Save

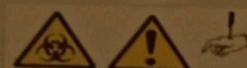
Print

Standby, Press the aspirate key to exit

Normal



HMT-60P





CERTIFICATE OF CALIBRATION



No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.
Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@viplgroup.com Web : www.viplgroup.com

NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With vide Certificate No: CC-2473

1 Name and Address of the Customer : M/s. CURA MULTISPECIALITY HOSPITAL
1, Bethel St, HRBR Layout 2nd Block, Kalyan Nagar,
Kammanahalli, Bengaluru , Karnataka - 560 043.

2 Customer Reference

- 2.1 ULR No : CC247324100023510F
- 2.2 SRF No : 2358
- 2.3 Certificate No. : VI/24-25/2358-01
- 2.4 Format No. : VI-FRM-ME-073
- 2.5 Dc No & Dc Date : Ref Letter & 14-06-2024
- 2.6 Receipt Date : 15-06-2024
- 2.7 Date Of Issue : 15-06-2024

3 Details Of Device Under Calibration(DUC).

- 3.1 Nomenclature : Micro Pipette
- 3.2 Make : Dragon Lab
- 3.3 Range. : 10 - 100µl
- 3.4 SL No. : YE20BAS0058090
- 3.5 DUC Condition : Satisfactory
- 3.6 Calibration Procedure No. : SOP-16-71 Based On ISO 8655-6:2022 E
- 3.7 No.of Pages : 2
- 3.8 Calibration Date : 15-06-2024
- 3.9 Calibration Due : 14-06-2025
- 3.10 Calibration done at : VI Volumetric Lab
- 3.11 Discipline : Mechanical (Mass & volume)

4 Environmental Condition

Temperature 23.5 - 23.9 °C Humidity 57.2 - 57.8 %RH

5 Standards Used for calibration

Sl. No.	Nomenclature	Make / Model	SL No / ID No	Range	Certificate. No.	Traceability to	Validity
1	Digital Weighing Balance	Radwag / XA 82/220.4Y	551565 / VI/ME/DWB-03	up to 220g	VI/23-24/INT-ME-118	VI Bangalore	13-09-2024
2	Digital Weighing Balance	Radwag / MYA5.4Y	544953 / VI/ME/DWB/02	up to 5g	VI/23-24/INT-ME-121	VI Bangalore	13-09-2024
3	E2 Class Weights	LCGC / --	2020136 / VI-ME-E2C-001	1mg to 200g	TYCON/WI/07/2023/657	TYCON Haryana	04-07-2024

6 Note:

- 6.1. The Calibration Certificate relates only to the above DUC
- 6.2. Publication or reproduction of this Certificate in any form other than by complete set of the whole report & in the language, written, is not permitted without the written consent of VI Lab..
- 6.3. Corrections/erasing, invalidate the Calibration Certificate.
- 6.4. Calibration of the DUC are traceable to National standards/International Standards
- 6.5. Any error in this Certificate should be brought to our knowledge within 30 days from the date of this Cert.
- 6.6. Results Reported are valid at the time of and under the stated conditions of measurements.
- 6.7. The usage of NABL symbol is as per NABL guidelines given in NABL-133.

Calibrated By
Lohith
Lohith Kumar K.E
(Calibration Engineer)

Checked By
P. Ranjith kumar
P. Ranjith kumar
(Lab-In-Charge)

Authorized By
Gangadhar.C.K
Gangadhar.C.K





CERTIFICATE OF CALIBRATION



No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.

Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@viplgroup.com Web : www.viplgroup.com

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Certificate No: VI/24-25/2358-01

Page 2 of 2

Range: 10 - 100µl

Results:

Range	Cal Point	Volume observed	Expanded Uncertainty ±
10 - 100µl	µl	µl	µl
	10	10.234	0.016
	50	50.47	0.17
	100	100.23	0.27

Note:

1. Visual Inspection : Found Okay.
2. Trippl Distilled water is used to Calibrate the MicroPipette.

Conclusion /Remarks:

1. Ref. standard used are traceable to National/International Standard
2. The Expanded Uncertainty of associated with measurement at approximate 95.45% confidence level with coverage factor k=2

Calibrated By

Lohith

Lohith Kumar K.E (Calibration Engineer)

Checked By

P. Ranjith kumar

P. Ranjith kumar (Lab-In-Charge)

Authorized By

Gangadhar.C.K





CERTIFICATE OF CALIBRATION



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1, Bethel St, HRBR Layout 2nd Block, Kalyan Nagar,
Kammanahalli, Bengaluru , Karnataka - 560 043.

2 Customer Reference

- 2.1 ULR No : CC247324100023511F
- 2.2 SRF No : 2358
- 2.3 Certificate No. : VI/24-25/2358-02
- 2.4 Format No. : VI-FRM-ME-073
- 2.5 Dc No & Dc Date : Ref Letter & 14-06-2024
- 2.6 Receipt Date : 15-06-2024
- 2.7 Date Of Issue : 15-06-2024

3 Details Of Device Under Calibration(DUC).

- 3.1 Nomenclature : Micro Pipette
- 3.2 Make / Model. : Veripipette
- 3.3 Range. : 5 - 50µl
- 3.4 SI No. : 200184450
- 3.5 DUC Condition : Satisfactory
- 3.6 Calibration Procedure No. : SOP-16-71 Based On ISO 8655-6:2022 E
- 3.7 No.of Pages : 2
- 3.8 Calibration Date : 15-06-2024
- 3.9 Calibration Due : 14-06-2025
- 3.10 Calibration done at : VI Volumetric Lab
- 3.11 Discipline : Mechanical (Mass & volume)

4 Environmental Condition

Temperature 23.6 - 23.8 °C Humidity 58.1 - 58.9 %RH

5 Standards Used for calibration

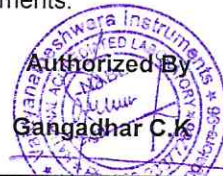
Sl. No.	Nomenclature	Make / Model	SL No / ID No	Range	Certificate. No.	Traceability to	Validity
1	Digital Weighing Balance	Radwag / XA 82/220.4Y	551565 / VI/ME/DWB-03	up to 220g	VI/23-24/INT-ME-118	VI Bangalore	13-09-2024
2	Digital Weighing Balance	Radwag / MYA5.4Y	544953 / VI/ME/DWB/02	up to 5g	VI/23-24/INT-ME-121	VI Bangalore	13-09-2024
3	E2 Class Weights	LCGC / --	2020136 / VI-ME-E2C-001	1mg to 200g	TYCON/W/07/2023/6 57	TYCON Haryana	04-07-2024

6 Note:

- 6.1. The Calibration Certificate relates only to the above DUC
- 6.2. Publication or reproduction of this Certificate in any form other than by complete set of the whole report & in the language, written, is not permitted without the written consent of VI Lab..
- 6.3. Corrections/erasing, invalidate the Calibration Certificate.
- 6.4. Calibration of the DUC are traceable to National standards/International Standards
- 6.5. Any error in this Certificate should be brought to our knowledge within 30 days from the date of this Cert.
- 6.6. Results Reported are valid at the time of and under the stated conditions of measurements.
- 6.7. The usage of NABL symbol is as per NABL guidelines given in NABL-133.

Calibrated By
Lohith
Lohithkumar K.E
(Calibration Engineer)

Checked By
Ranjith
Ranjith kumar P
(Lab-In-Charge)





CERTIFICATE OF CALIBRATION



No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096. Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@viplgroup.com Web : www.viplgroup.com

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Certificate No: VI/24-25/2358-02

Page 2 of 2

Range: 5 - 50µl

Results:

Range	Cal Point	Volume observed	Expanded Uncertainty ±
	µl	µl	µl
5 - 50µl	5	5.214	0.03
	20	19.23	0.05
	50	49.36	0.17

Note:

1. Visual Inspection : Found Well.
2. Trippl Distilled water is used to Calibrate the MicroPipette.

Conclusion /Remarks:

1. Ref. standard used are traceable to National/International Standard
2. The Expanded Uncertainty of associated with measurement at approximate 95.45% confidence level with coverage factor k=2

Calibrated By

Lohith

Lohithkumar K.E
(Calibration Engineer)

Checked By

P. Santhosh Kumar

P. Santhosh Kumar
(Lab- In-Charge)

Authorized By

Gangadhar C.K



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Page 1 of 2

1 Name and Address of the Customer : M/s. CURA MULTISPECIALITY HOSPITAL
1, Bethel St, HRBR Layout 2nd Block, Kalyan Nagar,
Kammanahalli, Bengaluru , Karnataka - 560 043.

2 Customer Reference

2.1 ULR No : CC247324100023512F
2.2 SRF No : 2358
2.3 Certificate No. : VI/24-25/2358-03
2.4 Format No. : VI-FRM-ME-073
2.5 Dc No & Dc Date : Ref Letter & 14-06-2024
2.6 Receipt Date : 15-06-2024
2.7 Date Of Issue : 15-06-2024

3 Details Of Device Under Calibration(DUC).

3.1 Nomenclature : Micro Pipette
3.2 Make : Wave Biotech Inc
3.3 Range. : 75µl Fixed
3.4 SL No. : 052201421
3.5 DUC Condition : Satisfactory
3.6 Calibration Procedure No. : SOP-16-71 Based On ISO 8655-6:2022 E
3.7 No.of Pages : 2
3.8 Calibration Date : 15-06-2024
3.9 Calibration Due : 14-06-2025
3.10 Calibration done at : VI Volumetric Lab
3.11 Discipline : Mechanical (Mass & volume)

4 Environmental Condition

Temperature 23.5 - 23.9 °C Humidity 57.2 - 57.8 %RH

5 Standards Used for calibration

Sl. No.	Nomenclature	Make / Model	SL No / ID No	Range	Certificate. No.	Traceability to	Validity
1	Digital Weighing Balance	Radwag / XA 82/220.4Y	551565 / VI/ME/DWB-03	up to 220g	VI/23-24/INT-ME-118	VI Bangalore	13-09-2024
2	Digital Weighing Balance	Radwag / MYA5.4Y	544953 / VI/ME/DWB/02	up to 5g	VI/23-24/INT-ME-121	VI Bangalore	13-09-2024
3	E2 Class Weights	LCGC / --	2020136 / VI-ME-E2C-001	1mg to 200g	TYCON/W/07/2023/657	TYCON Haryana	04-07-2024

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- Results Reported are valid at the time of and under the stated conditions of measurements.
- The usage of NABL symbol is as per NABL guidelines given in NABL-133.

Calibrated By

Lohith Kumar K.E
(Calibration Engineer)

Checked By

P. Ranjith kumar
(Lab-In-Charge)

Authorized By

Gangadhar C.K

CERTIFICATE OF CALIBRATION

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Certificate No: VI/24-25/2358-03

Page 2 of 2

Range: 75µl Fixed

Results:

Range	Cal Point	Volume observed	Expanded Uncertainty ±
	µl	µl	µl
75µl Fixed	75	75.34	0.27
	75	75.39	0.27
	75	75.35	0.27

Note:

1. Visual Inspection : Found Okay.
2. Trippl Distilled water is used to Calibrate the MicroPipette.

Conclusion /Remarks:

1. Ref. standard used are traceable to National/International Standard
2. The Expanded Uncertainty of associated with measurement at approximate 95.45% confidence level with coverage factor k=2

Calibrated By

Lohith

Lohith Kumar K.E
(Calibration Engineer)

Checked By

P. Ranjith Kumar

P. Ranjith Kumar
(Lab-in-Charge)





CERTIFICATE OF CALIBRATION



CC-2473



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NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With vide Certificate No: CC-2473

Page: 1 of 2

1 Name and Address of the Customer

M/s.: CURA Hospitals (A Unit of M/s Ambara),
No.1, Bethel Street, HRBR Layout, 2nd Block ,
Opp. East Gate of Jal Vaya Vihar, Kalyan Nagar,
Kammanahalli, Bangalore, Karnataka - 560 043.

2 Customer Reference

2.1 ULR No. : CC247324500046886F
2.2 SRF No. : 1016
2.3 Certificate No. : VI/24-25/1016-01
2.4 Format No. : VI-FRM-TH-006
2.5 Date of Issue : 14-06-2024

3 Details Of Device Under Calibration(DUC).

3.1 Nomenclature : Temperature Indicator with sensor of Refrigerator - 1
3.2 Make / Model : Haier / HRF-2783
3.3 Idl.No. : CH/KMH/RFG/043
3.4 DUC Condition : Satisfactory
3.5 Calibration Procedure No. : SOP-38-06
3.6 No.of Pages : 2
3.7 Calibration Date : 13-06-2024
3.8 Calibration Due : 12-06-2025
3.9 Calibration done at : Onsite
3.10 Instrument Location : Lab
3.11 Discipline : Thermal

4 Environmental Condition

Temperature 25.2 - 27.4 °C

Humidity 55 - 60 %RH

5 Standards Used for Temperature Calibration

Sl. No.	Nomenclature	Make & Model	Id. No.	Cal Agency	Certificate. No.	Validity
1	Paperless Recorder	Brain Child / VR-18	VI/OS/PR-12	VI, Bangalore	VI/23-24/INT-ET-428	27-09-2024
2	RTD Sensor	Frontier / ----	VI-RTD-01	VI, Bangalore	VI/23-24/INT-TH-100-01	12-08-2024

6 Note:

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- Publication or reproduction of this Certificate in any form other than by complete set of the whole report & in the language, written, is not permitted without the written consent of VI.
- Corrections/erasing, invalidate the Calibration Certificate.
- Calibration of the DUC are traceable to National standards/International Standards
- Any error in this Certificate should be brought to our knowledge within 30 days from the date of this Cert.
- Results Reported are valid at the time of and under the stated conditions of measurements.
- The usage of NABL Symbol is as per NABL guidelines given in NABL-133

Calibrated By
Vidya
Vidyasubramani
(Calibration Engineer)

Checked By
Umesh D
Umesh D
(Onsite In-Charge)





CERTIFICATE OF CALIBRATION



CC-2473



COMMITTED TO THE CUSTOMER SINCE - 1996

No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.
Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@viplgroup.com Web : www.viplgroup.com

NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With vide Certificate No: CC-2473

Certificate No. VI/24-25/1016-01

Page: 2 of 2

Results: Refrigerator

Range / Resolution: 2 to 8 °C / 0.1 °C

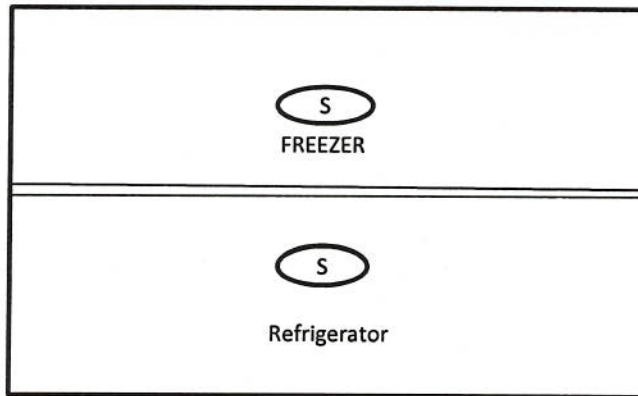
Sl.No.	STD Reading (°C)	DUC Reading (°C)	Error Observed (°C)	Measurement Uncertainty ± (°C)	k Factor
1	2.0	2.0	0.0	0.732	2.0
2	3.0	3.0	0.0	0.732	2.0
3	3.9	4.0	0.1	0.732	2.0
4	5.9	6.0	0.1	0.732	2.0
5	7.9	8.0	0.1	0.732	2.0

Results: Freezer

Range / Resolution: -18 to -22 °C / 0.1 °C

Sl.No.	STD Reading (°C)	DUC Reading (°C)	Error Observed (°C)	Measurement Uncertainty ± (°C)	k Factor
1	-18.0	-18.0	0.0	0.732	2.0
2	-19.0	-19.0	0.0	0.732	2.0
3	-20.1	-20.0	0.1	0.732	2.0
4	-21.1	-21.0	0.1	0.732	2.0
5	-22.1	-22.0	0.1	0.732	2.0

Pictorial Representation of Sensors Placement



Note :

1. S Indicates Placement of Standard Sensor
2. Calibration done in empty condition.

Conclusion / Remarks:

1 Measurement Uncertainty reported is at 95.45% confidence level with k = 2.

Calibrated By

Vidyasubramani
Vidyasubramani
(Calibration Engineer)

Checked By

Umesh D
Umesh D
(Onsite In-Charge)





CERTIFICATE OF CALIBRATION



COMMITTED TO THE CUSTOMER SINCE - 1996

No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.
Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@vipgroup.com Web : www.vipgroup.com

NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With vide Certificate No: CC-2473

Page: 1 of 2

1 Name and Address of the Customer

M/s.: CURA Hospitals (A Unit of M/s Ambara),
No.1, Bethel Street, HRBR Layout, 2nd Block ,
Opp. East Gate of Jal Vaya Vihar, Kalyan Nagar,
Kammanahalli, Bangalore, Karnataka - 560 043.

2 Customer Reference

2.1 ULR No : CC247324500046887F
2.2 SRF No. : 1016
2.3 Certificate No. : VI/24-25/1016-02
2.4 Format No. : VI-FRM-TH-006
2.5 Date of issue : 14-06-2024

3 Details Of Device Under Calibration(DUC).

3.1 Nomenclature : Temperature Indicator with sensor of Refrigerator - 2
3.2 Make / Model : Godrej / RDCHAMP 114 WRF 1.2
3.3 Id.No. : CH/KMH/REF/043-A
3.4 Range / Resolution : 2 to 8 °C / 0.1 °C
3.5 DUC Condition : Satisfactory
3.6 Calibration Procedure No. : SOP-38-06
3.7 No.of Pages : 2
3.8 Calibration Date : 13-06-2024
3.9 Calibration Due : 12-06-2025
3.10 Calibration done at : Onsite
3.11 Discipline : Thermal
3.12 Instrument Location : Lab

4 Environmental Condition

Temperature 22.5 - 25.2°C Humidity 50 - 55 %RH

5 Standards Used for Temperature Calibration

Sl. No.	Nomenclature	Make / Model	ID.No	Cal Agency	Certificate. No.	Validity
1	Paperless Recorder	Brain Child / VR-18	VI/OS/PR-12	VI, Bangalore	VI/23-24/INT-ET-428	27-09-2024
2	RTD Sensor	Frontier / ----	VI-RTD-01	VI, Bangalore	VI/23-24/INT-TH-100-01	12-08-2024

6 Note:

- The Calibration Certificate relates only to the above DUC
- Publication or reproduction of this Certificate in any form other than by complete set of the whole report & in the language, written, is not permitted without the written consent of VI.
- Corrections/erasing, invalidate the Calibration Certificate.
- Calibration of the DUC are traceable to National standards/International Standards
- Any error in this Certificate should be brought to our knowledge within 30 days from the date of this Cert.
- Results Reported are valid at the time of and under the stated conditions of measurements.
- The usage of NABL Symbol is as per NABL guidelines given in NABL-133

Calibrated By

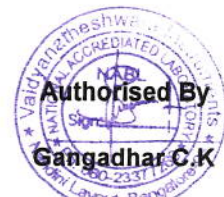
Checked By

Vidyasubramani

Umesh D

(Calibration Engineer)

(Onsite In Charge)





CERTIFICATE OF CALIBRATION



CC-2473



No. 301/A, 9th Main Road, 3rd Cross, Rajiv Gandhi Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.

Ph : 080-23377266, Mob : 9986586789 / 9632221171 / 9964308118 | Email : info@viplgroup.com Web : www.viplgroup.com

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Certificate No. VI/24-25/1016-02

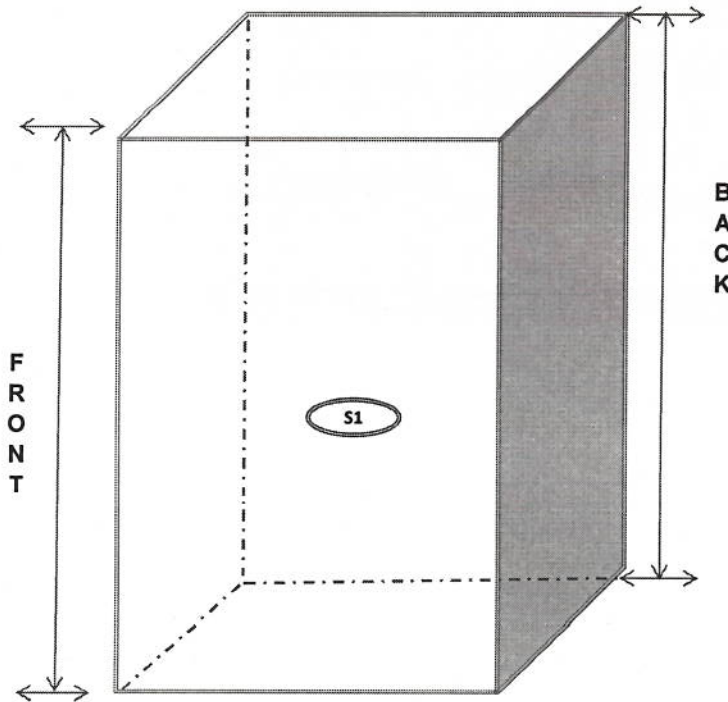
Page: 2 of 2

Results:

Range / Resolution : 2 to 8 °C / 0.1 °C

Table with 6 columns: SI.No., STD Reading (°C), DUC Set (°C), Error Observed (°C), Measurement Uncertainty ± (°C), k Factor. It contains 5 rows of calibration data.

Pictorial Representation of Sensors Placement



Note :

- 1. S1 Indicates Placement of Standard Sensor

Conclusion / Remarks:

1 Measurement Uncertainty reported is at 95.45% confidence level with k = 2.

Calibrated By

Vidyasubramani (Calibration Engineer)

Checked By

Umesh D (Onsite In Charge)



CERTIFICATE OF CALIBRATION

Customer Name	CURA MULTISPECIALITY HOSPITAL	Certificate No.	CMHC 130
Address	Kammanahalli, Bengaluru, Karnataka 560043	Date of Calibration	07-12-2023
		Valid Upto	06-12-2024
		Date of Issue	08-12-2023

DUC* Details					
DUC* Name	Make/Model No	S No.	ASSET ID	LOCATION	Visual Inspection
MICROSCOPE	LABOMED/OPTICX	210227018	CH/ME/LAB/315	LABORATORY	OK

Details of Reference Standards & Major Equipments Used		
Equipment Name	ELECTRICAL SAFETY ANALYZER	THERMO HYGROMETER
Make	FLUKE	HTC-2
Model/SR No.	ESA 612/2959012	...
Equipment Id	CHPL/MT-KL/ESA/002	
Calibration certificate No	ET/230117A/01	UCSL/07-23/202_03
Calibration Validity	23/01/2024	20/07/2024
Calibration By	STIC	UNIQUE CALIBRATION SOLUTIONS

**STANDARD USED IS IEC 60601-1

ELECTRICAL SAFETY TEST VALUES

TEST NO.	NAME OF THE TEST	READING	HIGH LIMIT	LOW LIMIT	UNIT	STATUS
1	MAIN VOLTAGE -LIVE TO NEUTRAL	229.4	250	225	V	PASS
2	MAIN VOLTAGE -LIVE TO EARTH	228.4	240	220	V	PASS
3	MAIN VOLTAGE-NEUTRAL TO EARTH	0.2	3	0	V	PASS
4	EQUIPMENT CURRENT	0.3	16	0.1	mA	PASS
	PROTECTIVE EARTH RESISTANCE	0.3	2	0	Ω	PASS
6	EARTH LEAKAGE CURRENT - NC	0.6	1	0.5	mA	PASS
7	EARTH LEAKAGE CURRENT - OC	0.7	1	0.5	mA	PASS
8	ENCLOSURE LEAKAGE CURRENT -NC	0.4	0.5	0.1	mA	PASS
9	ENCLOSURE LEAKAGE CURRENT -OC	0.3	0.5	0.1	mA	PASS
10	INSULATION RESITANCE					
	1.MAINS-PROTECTIVE EARTH	OL	100	0	MΩ	PASS
	2.APPLIED PART TO PROTECTIVE EARTH	NA	100	0	MΩ	PASS
	3.MAINS TO APPLIED PART	NA	100	0	MΩ	PASS
	4.MAINS TO NEUTRAL	OL	100	0	MΩ	PASS
	5.APPLIED PART TO NEUTRAL	NA	100	0	MΩ	PASS

*NOTE (NC -NORMAL CONDITION, OC-OPEN CONDTION). REMARKS- *DUC- DEVICE UNDER CALIBRATION

CALIBRATED BY
ACHUTH P K



ISSUED AND APPROVED BY

PREJITH T B
TECHNICAL MANAGER

CERTIFICATE OF CALIBRATION

Customer Name	CURA MULTISPECIALITY HOSPITAL	Certificate No.	CMHC 132
Customer Address	Kammanahalli, Bengaluru, Karnataka 560043	Date of Calibration	07-12-2023
		Valid Upto	06-12-2024
		Date of Issue	08-12-2023

DUC* Details			
DUC* Name	CENTRIFUGE	S No.	ZHCN-09336
Make/Model No.	REMI/R-8C	Location	LABORATORY
ID No.	CH/ME/LAB/319	Visual Inspection	OK

Details of Reference Standards & Major Equipments Used		
Equipment Name	DIGITAL TACHO METER	THERMO HYGROMETER
Make	METRAVI	HTC-2
Model/SR No.	NCTM 1000/190518478	...
Equipment Id	CHPL/MT-KL/TAM/002	
Calibration certificate No	UCSL/07-23/202_05	UCSL/07-23/202_03
Calibration Validity	20/07/2024	20/07/2024
Calibration By	UNIQUE CALIBRATIONS	UNIQUE CALIBRATION SOLUTIONS

Environmental Condition			
Temperature	27°C	Relative Humidity	54%

Calibration Results				
SL NO	SET READING (RPM)	MEASURED READING (RPM)	TOLERANCE	STATUS
1	500	506	±5%	PASS
2	1000	1005	±5%	PASS
	2500	2512	±5%	PASS

CALIBRATION STATUS	PASS	✓	FAIL
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REMARKS:- *DUC- DEVICE UNDER CALIBRATION

- ❖ This result of calibration refers to only to the particular items submitted for calibration.
- ❖ The above result is valid at the time of and under the stated conditions measurement.
- ❖ Calibration certificate issued for weight & measure parameters like mass, weighting balance, volumetric equipment, measuring scales/tapes etc. Are scientific purpose only and should not used for commercial.

Calibrated By

ACHUTH P K



Issued and Approved By

PREJITH B
TECHNICAL MANAGER

CERTIFICATE OF CALIBRATION

Customer Name	CURA MULTISPECIALITY HOSPITAL	Certificate No.	CMHC 136
Address	Kammanahalli, Bengaluru, Karnataka 560043	Date of Calibration	07-12-2023
		Valid Upto	06-12-2024
		Date of Issue	08-12-2023

DUC* Details					
DUC* Name	Make/Model No	S No.	ASSET ID	LOCATION	Visual Inspection
BIOCHEMISTRY ANALYSER	RAPID/STAR 20	ES1002002P9424	CH/ME/LAB/331	LABORATORY	OK

Details of Reference Standards & Major Equipments Used		
Equipment Name	ELECTRICAL SAFETY ANALYZER	THERMO HYGROMETER
Make	FLUKE	HTC-2
Model/SR No.	ESA 612/2959012	...
Equipment Id	CHPL/MT-KL/ESA/002	
Calibration certificate No	ET/230117A/01	UCSL/07-23/202_03
Calibration Validity	23/01/2024	20/07/2024
Calibration By	STIC	UNIQUE CALIBRATION SOLUTIONS

**STANDARD USED IS IEC 60601-1

ELECTRICAL SAFETY TEST VALUES

TEST NO.	NAME OF THE TEST	READING	HIGH LIMIT	LOW LIMIT	UNIT	STATUS
1	MAIN VOLTAGE -LIVE TO NEUTRAL	228.6	250	225	V	PASS
2	MAIN VOLTAGE -LIVE TO EARTH	228.5	240	220	V	PASS
3	MAIN VOLTAGE-NEUTRAL TO EARTH	0.3	3	0	V	PASS
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5	PROTECTIVE EARTH RESISTANCE	0.3	2	0	Ω	PASS
6	EARTH LEAKAGE CURRENT - NC	0.6	1	0.5	mA	PASS
7	EARTH LEAKAGE CURRENT - OC	0.5	1	0.5	mA	PASS
8	ENCLOSURE LEAKAGE CURRENT -NC	0.4	0.5	0.1	mA	PASS
9	ENCLOSURE LEAKAGE CURRENT -OC	0.5	0.5	0.1	mA	PASS
10	INSULATION RESITANCE					
	1.MAINS-PROTECTIVE EARTH	OL	100	0	MΩ	PASS
	2.APPLIED PART TO PROTECTIVE EARTH	NA	100	0	MΩ	PASS
	3.MAINS TO APPLIED PART	NA	100	0	MΩ	PASS
	4.MAINS TO NEUTRAL	OL	100	0	MΩ	PASS
	5.APPLIED PART TO NEUTRAL	NA	100	0	MΩ	PASS

*NOTE (NC -NORMAL CONDITION, OC-OPEN CONDITON). REMARKS- *DUC- DEVICE UNDER CALIBRATION

CALIBRATED BY
ACHUTH P K



ISSUED AND APPROVED BY

PREETHI B
TECHNICAL MANAGER