



Add : Flat No.302, Third Floor, Krishna Pride Apartment,  
Sadguru Nagar, Pathardi Gaon, Nashik-422 010.  
Mob.: +91 9028646172, +91 9028777244 ① 0253 4034044  
E-mail : rktechnologies99@gmail.com  
Website : www.rktechcalibration.com

Calibration of Electro Technical,  
Thermal, Pressure, Dimensional,  
Volume, Sound & RPM Parameters.

**NABL ACCREDITED CALIBRATION LABORATORY**  
as per ISO/IEC 17025 : 2017 With vide certificate No. CC-2497

## CALIBRATION CERTIFICATE

<b>Calibration Item</b>	Micropipette	<b>Certificate No</b>	RK/24/195-02
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<b>Date of Receipt</b>	<b>Date of Calibration</b>	<b>Next Recommended Due Date</b>	<b>Certificate Issue Date</b>	<b>Page No</b>
16 October 2024	17 October 2024	16 October 2025	18 October 2024	01 of 01

<b>I. Customer Name &amp; Address</b>	<b>HOFFEN DIAGNOSTICS</b> <b>BAVDHAN, PUNE</b> Customer Reference Through: M/s GLOBAL TECHNICAL SERVICES PUNE
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### II. Description of Item Under Calibration :

Instrument ID No	HOF - 06	Range	100 to 1000 µl
Make/Model	ERBA	Resolution	5 µl
Serial No.	QC 583360	Location	LAB
Type	Variable	Department	Pathology

### III Environment Condition:

Temperature Air	27 ± 3 °C	Water : 24.3°C	Work Instruction No	RK-WI-68
Relative Humidity	50 % to 60 % rh		Discipline	Mechanical Volume
Location of Calibration	In Lab	Z Correction Factor (µl/mg)	1.0045 / Air Pressure : 943 hPa	
ULR NO.	CC249724000001622F	Condition of Receipt Item	Good	

### IV. Detail of Reference Standard used for calibration ( Traceable To National / International Standard )

Instrument Name	ID No	Traceability (Cert No)	Date of Calibration	Valid upto	Traceability
Digital Weighing Balance	RK-STD-38	CAL/24-25/CC/0022-1	09 April 2024	8 April 2025	NABL, CC-2248

### V: Calibration Result :

Calibration Range	Set UUC Reading	Measure Standard Reading @ 27 °C	Systematic Error	± Expanded Uncertainty
µl	µl	µl	µl	µl
100 to 1000 µl	100	99.63	0.37	0.78
	500	498.15	1.85	0.78
	1000	996.05	3.95	0.78

The reported uncertainty is the expanded uncertainty in measurement obtained by multiplying the standard uncertainty by the coverage factor k=2, which corresponds to a coverage probability of approximately 95% for normal distribution

### VI : Note:

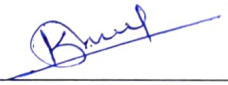

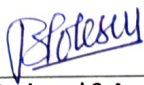
- 1) UUC stands for Unit Under Calibration.
- 2) Next calibration date (1 Year) mentioned in the certificate is given as per customer request
- 3) This certificate refers only to the particular item submitted for calibration
- 4) This certificate shall not be reproduced, except in full unless written permission for the publication of an approved abstract has been obtained from the Technical Manager of "RK QUALITY MEASUREMENT SERVICES PVT LTD".
- 5) The calibration results reported in the certificate are valid at the time of and under the stated conditions of measurement.

Calibrated By  
**Mr. Yogesh Berad**  
Calibration Engineer

Review & Approved By  
**Mr. Rahul Kasture**  
Technical Manager



"Sahastrarashmi", C-10, MIDC, Ambad, Nashik-422 010. Tel.: +91 253 6699231,32,91 TeleFax: + 91 253 6699222  
E-mail : calibration@nec.org.in, quality.lab@nec.org.in, testinglab@nec.org.in, info@nec.org.in, website: www.nec.org.in

CALIBRATION CERTIFICATE		Certificate No. CAL/24-25/CC/0022-1					
WEIGHING BALANCE		ULR No. CC224824000001549F					
		Date of Issue 10.04.2024					
Date of Calibration 09.04.2024	Next Calibration Due Date 08.04.2025	Page No. 1	No. of Pages 4				
Calibrated For	M/s.RK Quality Measurement Services Pvt. Ltd Flat No.302,Third Floor,Krishna Pride Apartment,Sadguru Nagar Lane No.3, B/H Rudra Hight Apartment,Pathardi Gaon,Nashik-422010.						
Date of Receipt of Instrument	09.04.2024						
Condition of the Instrument on Receipt	Functional						
Calibrated at	Onsite						
SRF No.	CAL/24-25/CSRF/0022	SRF DATE :-	09.04.2024				
NEC ID No.	CAL/24-25/ID/0022-1						
<b>Details of Test Instrument</b>							
Description	WEIGHING BALANCE						
Make / Type	Radwag/Digital						
Model	AS82/220.R2 PLUS						
Serial No.	668681						
ID No.	RK-STD-38						
Capacity (max)	82 g / 220 g						
Capacity (min)	0.001 g						
Resolution	0.00001 g / 0.0001 g						
Accuracy	Class I						
e Value	0.0001 g / 0.001 g						
Calibration Procedure No.	WI/NEC/CAL/MECH/14						
Reference Standard	OIML-R-76:2006						
<b>Calibration Environments</b>							
Temperature	23 ± 1°C						
Relative Humidity	50 ± 10 % RH						
<b>Reference Standard Used For Calibration (Traceable To National / International Standards)</b>							
Description	Make/Model	Sr/No.	Cal. Cert No.	Valid upto	Traceability		
Weight Box (E1 Class)	Weigh India	NEC/CAL/M-17	TSC/23-24/6985-1	24.07.2025	Transcal, Bangalore.		
<b>Note:</b> 1) Calibration results are enclosed on page no. 2 & onwards. 2) Next calibration date(1 Year) mentioned in the certificate as per customer request. 3) The calibration certificate pertains to the above equipment calibration. 4) The calibration certificate shall not be reproduced except in full,without written approval of the laboratory.							
 Calibrated By Kunal Shejwal (Calibration Engineer)						 Reviewed & Approved By Rahul Golesar (Quality Manager)	


<b>CALIBRATION CERTIFICATE</b>		Certificate No. <b>CAL/24-25/CC/0022-1</b>	
		ULR No. <b>CC224824000001549F</b>	
<b>WEIGHING BALANCE</b>		Date of Issue <b>10.04.2024</b>	
		Date of Calibration <b>09.04.2024</b>	Next Calibration Due Date <b>08.04.2025</b>

**Discipline - Mechanical**  
**Sub - Discipline - Mass (Weighing Balance)**

**CALIBRATION RESULT :-**

**A) Linearity Test**

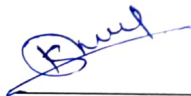
Load (L) in 'g'	Certified Value of Weight in 'g' (L)	Balance Reading (I) in 'g'		Error (E = I-L) in 'g'		+/- MPE	EXP.Unc in 'g'
		Increase	Decrease	Increase	Decrease		
0.000	0.0000000	0.00000	0.00000	0.000000	0.000000	0.00005	0.00000
0.001	0.0010001	0.00099	0.00099	-0.000010	-0.000010	0.00005	0.00001
0.002	0.0019997	0.00199	0.00201	-0.000010	0.000010	0.00005	0.00001
0.002*	0.0019999	0.00199	0.00201	-0.000010	0.000010	0.00005	0.00001
0.005	0.0049993	0.00498	0.00498	-0.000019	-0.000019	0.00005	0.00001
0.01	0.0099998	0.00999	0.00998	-0.000010	-0.000020	0.00005	0.00001
0.02	0.0199998	0.01998	0.01998	-0.000020	-0.000020	0.00005	0.00001
0.02*	0.0200007	0.02002	0.02003	0.000019	0.000029	0.00005	0.00001
0.05	0.0500013	0.04998	0.04998	-0.000021	-0.000021	0.00005	0.00001
0.1	0.1000004	0.10002	0.10003	0.000020	0.000030	0.00005	0.00001
0.2	0.2000007	0.20003	0.20003	0.000029	0.000029	0.00005	0.00001
0.2*	0.2000003	0.19998	0.19997	-0.000020	-0.000030	0.00005	0.00001
0.5	0.5000018	0.50003	0.50002	0.000028	0.000018	0.00005	0.00001
1	1.000006	0.99998	0.99998	-0.000026	-0.000026	0.00005	0.00001
2	2.000001	1.99998	1.99997	-0.000021	-0.000031	0.00005	0.00001
2*	2.000007	2.00003	2.00002	0.000023	0.000013	0.00005	0.00001
5	5.000008	5.00002	5.00003	0.000012	0.000022	0.00005	0.00001
10	10.000008	10.00003	10.00003	0.000022	0.000022	0.00010	0.00001
20	19.999995	19.99997	19.99998	-0.000025	-0.000015	0.00010	0.00001
20*	20.000008	19.99998	19.99998	-0.000028	-0.000028	0.00010	0.00001
50	50.00001	50.00003	50.00002	0.000020	0.000010	0.00015	0.00001
100	100.00000	99.9999	99.9999	-0.000100	-0.000100	0.001	0.00025
200	199.99998	199.9998	199.9999	-0.000180	-0.000080	0.001	0.00025
200*	200.00001	199.9999	199.9999	-0.000110	-0.000110	0.001	0.00025

  
Calibrated By  
Kunal Shejwal  
(Calibration Engineer)





  
Reviewed & Approved By  
Rahul Golezar  
(Quality Manager)

<b>CALIBRATION CERTIFICATE</b>		Certificate No. <b>CAL/24-25/CC/0022-1</b>	
<b>WEIGHING BALANCE</b>		ULR No. <b>CC224824000001549F</b>	
		Date of Issue <b>10.04.2024</b>	
Date of Calibration <b>09.04.2024</b>	Next Calibration Due Date <b>08.04.2025</b>	Page No. <b>3</b>	No. of Pages <b>4</b>
<b>Discipline - Mechanical</b>			
<b>Sub - Discipline - Mass (Weighing Balance)</b>			
<b>CALIBRATION RESULT :-</b>			
<b>B) Repetability Test : P = l + e/2</b>			
<b>Full Load = 200.0000 /g</b>		<b>Half Load = 100.0000 /g</b>	
<b>Balance Readings(l) in 'g'</b>	<b>(P) in'g'</b>	<b>Balance Readings (l) in 'g'</b>	<b>(P) in'g'</b>
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
199.9999	200.00040	99.9999	100.00040
<b>MPE = 0.001</b>		<b>MPE = 0.001</b>	
<b>Full Load ('P'Max-'P'Min)= 0.0000 g</b>		<b>Half Load ('P'Max-'P'Min)= 0.0000 g</b>	

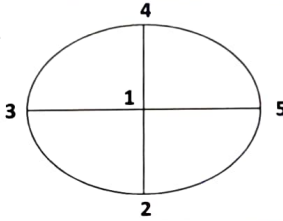


**Calibrated By**  
**Kunal Shejwal**  
(Calibration Engineer)





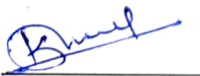
**Reviewed & Approved By**  
**Rahul Golesar**  
(Quality Manager)

<b>CALIBRATION CERTIFICATE</b>			Certificate No. <b>CAL/24-25/CC/0022-1</b>	
			ULR No. <b>CC224824000001549F</b>	
<b>WEIGHING BALANCE</b>			Date of Issue <b>10.04.2024</b>	
			Page No. <b>4</b> No. of Pages <b>4</b>	
Date of Calibration <b>09.04.2024</b>	Next Calibration Due Date <b>08.04.2025</b>			
Discipline - Mechanical Sub - Discipline - Mass (Weighing Balance)				
<b>CALIBRATION RESULT :-</b>				
C) Eccentricity Test (At 30 % of Full Load) :- <b>50.00000 g</b> No Load :- <b>0.00000 g</b>				
				
Load(L) g	Location	Balance Reading (I) g	Error (Ec) g	+/- MPE g
50	1	49.9999	-0.00010	0.00005
50	2	49.9999	-0.00010	0.00005
50	3	49.9998	-0.00020	0.00005
50	4	49.9999	-0.00010	0.00005
50	5	49.9999	-0.00010	0.00005
50	1	49.9998	-0.00020	0.00005
50	5	49.9999	-0.00010	0.00005
50	4	49.9999	-0.00010	0.00005
50	3	49.9998	-0.00020	0.00005
50	2	49.9999	-0.00010	0.00005
50	1	49.9999	-0.00010	0.00005


The Expanded Uncertainty of Balance Under Calibration for range 0 to 82 g is 0.00001 g & Range 82 g to 220 g is 0.00025 g .


**Remarks:**

- 1) Uncertainty has been calculated for a coverage factor k=2 corresponding to approximately 95.45 % Confidence Level.
- 2) The Standard maintained are traceable to National / International Standard through accredited Laboratories.
- 3) The observations reported represent values at the time of the measurements, and under the stated conditions. they do not convey any long term stability information.



Calibrated By  
**Kunal Shejwal**  
(Calibration Engineer)





Reviewed & Approved By  
**Rahul Golekar**  
(Quality Manager)

\*\*\* End of Certificate \*\*\*