






## CALIBRATION CERTIFICATE

<b>Certificate No.</b>	:- 2223/0211/08 -09	<b>Page No.</b>	:- 1 of 2			
<b>Date of Calibration</b>	:- 11-Feb-2023	<b>Calibration Due Date</b>	:- 10-Feb-2024			
<b>1. Customer Name &amp; Address :</b>		<b>SRF No.</b>	:- 2223/0211/08			
<b>Health Horizon Diagnostics</b>		<b>Date of Received</b>	:- 11-Feb-2023			
Varun Capital, Flat No.401 & 402,		<b>Cal. Cert. Issue Date</b>	:- 14-Feb-2023			
CTS No.364,365/13,FP No.713,714/13,Shivaji Nagar,		<b>Condition of UUC</b>	:- OK			
Pune-411005		<b>Location of calibration</b>	:- In Lab			
		<b>Calibration Procedure No.</b>	:- MTS/VM/WI-01			
<b>2. Enviromental Conditions:</b>		<b>Temperature:</b>	20.5 °C			
		<b>Relative Humidity:</b>	48 % RH			
<b>3. Description of UUC</b>						
<b>Name</b>	:- Micropipette	<b>Range</b>	:- 5 to 50 µL			
<b>Make</b>	:- Erba	<b>L.C.</b>	:- 0.5 µL			
<b>I.D No.</b>	:- HHD/IN/MP/01	<b>Model/Sr.No.</b>	:- --/NK480222			
<b>Type</b>	:- Analog	<b>Location</b>	:- --			
<b>4. Reference Standards used for calibration:</b>						
<b>Name</b>	:- Digital Weighing Balance	4- Wire RTD Sensor With Indicator				
<b>Make</b>	:- Saffron	Tempsens, 4 Wire/Tempmet				
<b>I.D No./Sr. No.</b>	:- MTS/WB-04 / M21090500	MTS/TIS-01/867,0042				
<b>Certificate No.</b>	:- 2223/0921/02-01	NI/2206/016/001				
<b>Calibration Validity</b>	:- 20-Sep-2023	05-06-2023				
<b>Certified By</b>	:- Mastertech Systems	Nishitronics (CC-2294)				
<b>Range/Uncertainty</b>	:- As Per Certificate	As Per Certificate				
<b>5. Calibration Results</b>						
S. No.	Cal Point		Cal Point		Cal Point	
	10 µl		30 µl		50 µl	
	Mass (mg)	Volume (µl)	Mass (mg)	Volume (µl)	Mass (mg)	Volume (µl)
1	9.68102	9.70909	29.70115	29.78728	49.17502	49.31763
2	9.60564	9.63350	29.73325	29.81948	49.38536	49.52858
3	9.64857	9.67655	29.35638	29.44151	49.70336	49.84750
4	9.59841	9.62625	29.43775	29.52312	49.55781	49.70153
5	9.65148	9.67947	29.37445	29.45964	49.55965	49.70337
6	9.68742	9.71551	29.44895	29.53435	49.78964	49.93403
7	9.91564	9.94440	29.78415	29.87052	49.12480	49.26726
8	9.88748	9.91615	29.66987	29.75591	49.89151	50.03620
9	9.74851	9.77678	29.45780	29.54323	49.66148	49.80550
10	9.89132	9.92000	29.69857	29.78470	49.58964	49.73345
Mean	9.73155	9.75977	29.56623	29.65197	49.54383	49.68750
Standard Devi.	0.122653350	0.123009045	0.164883360	0.165361522	0.249412476	0.250135772





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<b>S. No.</b>	<b>Cal Point</b>	<b>Accuracy Limit %</b>	<b>Accuracy %</b>		
1	10	2.5 %	-2.40 %		
2	30	1.5 %	-1.16 %		
3	50	1.0 %	-0.62 %		
<b>S. No.</b>	<b>Cal Point</b>	<b>% CV Limit</b>	<b>% CV</b>		
1	10	2.5 %	1.260 %		
2	30	1.5 %	0.558 %		
3	50	1.0 %	0.503 %		
<p>Z Factor 1.0029 µl/mg      Temperature 20.5 Deg C      Humidity 48% RH</p> <p>Barometric Pressure 944.7 hPa      Water Temperature 22.6 Deg C</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>1.The value measured of uuc &amp; standard are mean of 10 reading.</li> <li>2.The reported uncertainty is the expanded uncertainty in measurement obtained by multiplying the standard uncertainty by coverage factor K=2, which corresponds to a coverage probability of approximately 95.45% for normal distribution</li> <li>3.This certificate refers only to the particular UUC submitted for calibration. UUC stands for Unit Under Calibration.</li> <li>4.The calibration results reported in the certificate are valid at the time of and under the stated conditions of measurement.</li> <li>5. This certificate shall not be reproduced, except in full unless written permission for the publication of an approved abstract has been obtained from "Mastertech Systems" Pune.</li> <li>6.The Instruments used for calibration are traceable to National/International standards and their calibrations are valid.</li> <li>7. Calibration Accepted Yes.</li> </ol>					
<p>Calibrated By</p>  <p>Ms. Prachita Nighojkar Calibration Engineer</p>				<p>Approved By</p>  <p>Mr. Daulat Shete Technical Manager</p>	



'Anjali Niketan', Flat No. 3, 2nd Floor,  
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## CALIBRATION CERTIFICATE

Certificate No.	:- 2223/0921/02-01	Calibration Due Date	:- 20-Sep-2023
Date of Calibration	:- 21-Sep-2022	Cal. Cert. Issue Date	:- 22-Sep-2022
1. Clients Name & Address :		SRF No.	:- 2223/0921/02
Mastertech Systems		Date of Received	:- 21-Sep-2022
Anjali Niketan, Flat No. 3,		Condition of UUC	:- OK
2nd Floor, Viveknagar,		Location of calibration	:- In Lab
Akurdi, Pune-411035.		Calibration Procedure No.	:- MTS/WB/WI-01
		ULR NO.	:- CC291122000000824F

2. Environmental Conditions:	Temperature	22.3 °C	Relative Humidity:	54 % Rh
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3. Description of UUC			
Name :-	Weighing Balance	Range	:- 0 to 220 g
Make :-	Saffron	Resolution	:- 0.00001 g up to 60 g & 0.0001 g
I.D No. :-	MTS/WB-04	Model/Sr.No.	:- SES265/M21090500
Type :-	Digital	Location	:- —

### 4. Reference Standards used for calibration

Name	:- Weight Box
Make / Model	:- Shimadzu / E2 Class
I.D No./Sr. No.	:- MTS/SWB-01 / 1802820
Certificate No.	:- HTC/2022/05/10945
Calibration Validity	:- 06-06-2023
Certified By	:- HTC (CC-2478)
Range/Uncertainty	:- As Per Certificates

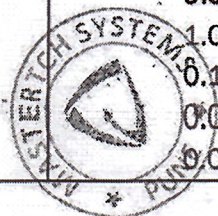
### 5. CALIBRATION RESULTS:

#### I. REPEATABILITY OF MEASUREMENTS:

Load	Repeatability of Measurement
g	g
200	0.0001
100	0.0001

#### II. CORRECTION FOR BALANCE INDICATION (LINEARITY TEST):

Load	Mass of Standard	Observed on UUC	Correction	Expanded Uncertainty
g	g	g	g	±mg
200	200.00019	199.9998	0.00039	0.4
100	100.00011	99.9999	0.00021	0.4
50	50.00006	49.99999	0.00007	0.4
10	10.000031	9.99999	0.000041	0.4
1	1.000016	1.00000	0.000016	0.4
0.1	0.100008	0.10000	0.000008	0.4
0.05	0.050008	0.05000	0.000008	0.4
0.001	0.001003	0.00100	0.000003	0.4





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**iii. OFF CENTER LOADING TEST:**

A weight of 100 g was placed at center of the balance pan & then was moved to various positions related to center. The maximum error found due to off center loading, relative to center is : 0.0003 g

**NOTES:**

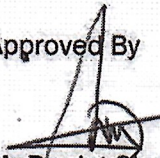
1. The reported uncertainty is the expanded uncertainty in measurement obtained by multiplying the standard uncertainty by coverage factor  $K=2$ , which corresponds to a coverage probability of approximately 95% for normal distribution
2. When the sign of the correction is positive (+) the correction value should be added to the balance reading to give the correct mass value of the test weight & when it is negative (-) the correction value should be subtracted from it.
3. Any correction for the Air buoyancy has to be calculated assuming that the object being weighted is balanced against a hypothetical weight of density  $7950 \pm 140 \text{ kg/m}^3$ ; ( $k=2$ ) for Stainless Steel Weights in air of measured density.
4. This certificate refers only to the particular UUC submitted for calibration. UUC stands for Unit Under Calibration.
5. The calibration results reported in the certificate are valid at the time of and under the stated conditions of measurement.
6. This certificate shall not be reproduced, except in full unless written permission for the publication of an approved abstract has been obtained from "Mastertech-Systems" Pune.
7. The Instruments used for calibration are traceable to National/International standards and their calibrations are valid.
8. Thermal stabilization of reference weights is done before performing the actual calibration process.
9. The calibration certificate issued for weighing balance used for scientific or industrial purposes only.

Calibrated By

  
Mr. Chetan Mane  
Calibration Engineer



Approved By

  
Mr. Daulat Shete  
Technical Manager

End of Certificate