



# CALIBRATION CERTIFICATE OF CHEM ULTRA ANALYZER

Issued to

: Rao's Standard Diagnostics Pvt. Ltd.

Certificate No.

: TEV/CAL/RSD/CA/21/01

Asset No.

: RSD/BME/CA/01

Serial No

: AES2K0KH02040Y

Model No

: NA

Date

: 14.12.2021

#### **CALIBRATION STANDARD USED**

SNO	ASSET NO	TEST EQUIPMENT	MODEL NO	SERIAL NO	CAL DATE	DATE
1	TEV / NIBPA / 01	ELECTRICAL SAFETY ANALYSER	ESA - 612	2111026	15.05.2021	14.05.2022

#### **TEST REPORT**

ELECTRICAL SAFETY ANALYZER TEST RESULTS						
TEST	RESULTS	LIMITS				
Line(Mains)Voltage	233.5	0.0 to 300.0V ac rms				
Ground Wire Resistance	0.003Ω	0.000 to 2.000 Ω				
Equipment current	1.4A	0 to 20.0 A ac rms				
Insulation resistance (Cal pration & Com	nonents M 2 M Q ment Serv	+/-2% +0.2 M Ω				
Ground(Earth) Leakage	12 μA(AC+DC)	10 to 199 Ma				
Chassis(Enclosure)Leakage	0.6Ma	0.0 to 199.9 μA				
Lead to Ground and Lead to lead	0.4 µA(AC+DC)	0.0 to 1999 µA				
Lead isolation	0.4Ma	0.0 to 1999 μA				
Differential Leakage	0.1Ma	0.0 to 1999 μA				
Direct Equipment Leakage	0.3μΑ	0.0 to 1999 µA				
Direct applied part Leakage	0.7Ma	0.0 to 1999 μA				
Alternative applied part patient leakage	0.01Ω	0.0 to 1999 Ma				
Point to point leakage, Voltage and Resistance	0.2μA,0.2v&OLΩ	+/-2% +0.2V				

Electrical safety test passed as per IEC Stand 60601.1

Calibration Passed: Yes

No

Calibration Done Date: 14.12.2021

Calibration Due Date: 13.12.2022

Calibrated By: Ms. M. Swathi, Engineer

Approved By:

Engineering Manager

The above mentioned instrument has been certified using standards with accuracy guidelines traceable to the national institute of standards & technology (NIST). Devices, for which there are no NIST calibration standards, were measured against in-house performance standard using accepted test procedures.

238/A, 3<sup>rd</sup> Link Street, Industrial Complex,

Nehru Nagar, I.T. Highway,

Chennai - 600 096. Tamil Nadu, Phone: +91-44-24540611 | Cell: +91 9444056612

Telefax: +91-44-2454 0034



CALIBRATION CERTIFICATE OF ADIDUO PLUS





Issued to

: Rao's Standard Diagnostics Pvt. Ltd.

Certificate No.

: TEV/CAL/RSD/ABA/21/02

Asset No.

: RSD/BME/APBA/02

Serial No

: **ES10019112P9160** 

Model No

: ADI DUO PLUS

Date

: 14.12.2021

#### **CALIBRATION STANDARD USED**

SNO	ASSET NO	TEST EQUIPMENT	MODEL NO	SERIAL NO	CAL DATE	CAL DUE DATE
1	TEV / NIBPA / 01	ELECTRICAL SAFETY ANALYSER	ESA - 612	2111026	15.05.2021	14.05.2022

#### **TEST REPORT**

TEST	RESULTS	LIMITS
Line(Mains)Voltage	233.5	0.0 to 300.0V ac rms
Ground Wire Resistance	0.003Ω	0.000 to 2.000 Ω
Equipment current	1.4A	0 to 20.0 A ac rms
Insulation resistance (Calibration & Con-	ponents M.2 M O. mant Serv	+/-2% +0.2 M Ω
Ground(Earth) Leakage	12 μA(AC+DC)	10 to 199 Ma
Chassis(Enclosure)Leakage	0.6Ma	0.0 to 199.9 μA
Lead to Ground and Lead to lead	0.4 μA(AC+DC)	0.0 to 1999 μA
Lead isolation	0.4Ma	0.0 to 1999 μA
Differential Leakage	0.1Ma	0.0 to 1999 μA
Direct Equipment Leakage	0.3µA	0.0 to 1999 µA
Direct applied part Leakage	0.7Ma	0.0 to 1999 μA
Alternative applied part patient leakage	0.01Ω	0.0 to 1999 Ma
Point to point leakage, Voltage and Resistance	0.2μA,0.2v&OLΩ	+/-2% +0.2V

#### Electrical safety test passed as per IEC Stand 60601.1

Calibration Passed: Yes

Calibration Due Date: 13.12.2022 Calibration Done Date: 14.12.2021

Calibrated By: Ms. M. Swathi, Engineer Approved By:

Engineering Manager

The above mentioned instrument has been certified using standards with accuracy guidelines traceable to the national institute of standards & technology (NIST). Devices, for which there are no NIST calibration standards, were measured against in-house performance standard using accepted test procedures. 238/A, 3<sup>rd</sup> Link Street, Industrial Complex,

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## **CALIBRATION CERTIFICATE OF WEIGHT MACHINE**

Issued to

: Rao's Standard Diagnostics Pvt. Ltd.

Certificate No.

: TEV/CAL/WM/RSD/21/04

Asset No.

: RSD/BME/WM/04

Serial No

: NA

Make

: N/A

Date

: 14.12.2021

### **CALIBRATION STANDARD USED**

SNO	ASSET NO	TEST EQUIPMENT	MODEL NO	SERIAL NO	CAL DATE	CAL DUE DATE
1	TEV / SW / 03	STD WEIGHTS	NA	DS30	19.09.2021	18.09.2022

#### **TEST REPORT**

S NO	SET VALUE in gms	MEASURED VALUE in gms	ACCEPTABLE RANGE	RAMARKS
01	1	1.003	+/-5%	Satisfactory
02	5	4.038	+/-5%	Satisfactory
03	10	10.043	+/-5%	Satisfactory
04	50	51.021	+/-5%	Satisfactory
05	150	150.032	+/-5%	Satisfactory

Calibration Passed:	Yes		No	
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<u>Calibration Done Date</u>: 14.12.2021 <u>Calibration Due Date</u>: 13.12.2022

Calibrated By: Mr. D. Utpalendu, Engineer

Approved By:

Engineering Manager

The above mentioned instrument has been certified using standards with accuracy guidelines traceable to the national institute of standards & technology (NIST). Devices, for which there are no NIST calibration standards, were measured against in-house performance standard using accepted test procedures.

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### CALIBRATION CERTIFICATE OF REF PROBE

Issued to

: Rao's Standard Diagnostics Pvt. Ltd.

Certificate No.

: TEV/CAL/RSD/REF/21/03

Asset No.

: RSD/BME/REGP/03

Serial No

: 1506009

Model No

: NA

Date

: 14.12.2021

#### **METHOD OF CALIBRATION**

The calibration certificate was produced in accordance to the instrument was calibrated for the points specified in the relevant in house technical procedure TEV –CP – T01 – 2021 as defined for the equipment. The designed instrument has been calibrated at TEV calibration laboratory under the ambient conditions.

#### **RESULT OF CALIBRATION**

1. The measured values are average of 3 readings

2. The result stated in the certificate relate only to the item calibrated.

3. The report expanded uncertainty is calculated at 95.45% confidence levels with a coverage factor of k = 2

#### **REMARKS**

- The result of the calibration are given on the attached following pages
- No adjacement was done unless otherwise stated.
- Corrections / erasing, invalidate the calibration certificate
- The user should determine the suitability of the instrument for its intended use
- The report shall not be reproduced except in full, unless the management representative of TEV Calibration has given approval in writing and comply with the requirements specified in ISO/IEC 17025

#### **CALIBRATION ESULTS**

STANDARD READINGS (REF)	TEST READINGS (UUT)	ERROR	UNCERTAINTY (+/-)
°C	°C	°C	°C
4.37	4	- 0.37	0.98

Calibration Passed: Yes No

Calibration Done Date: 14.12.2021

Calibration Due Date: 13.12.2022

Calibrated By: Ms. M. Swathi, Engineer

Approved By:

Engineering Manager

The above mentioned instrument has been certified using standards with accuracy guidelines traceable to the national institute of standards & technology (NIST). Devices, for which there are no NIST calibration standards, were measured against in-house performance standard using accepted test procedures.

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# CALIBRATION CERTIFICATE OF MICROSCOPE

Issued to

: Rao's Standard Diagnostics Pvt. Ltd.

Certificate No.

: TEV/CAL/RSD/MS/21/01

Asset No.

: NA

Serial No

: 16F0330

Model No

: CH 20i B

Date

: 14.12.2021

### CALIBRATION STANDARD USED

S NO	ASSET NO	TEST EQUIPMENT	MODEL NO	SERIAL NO	CAL DATE	CAL DUE DATE
1	TEV / NIBPA / 01	ELECTRICAL SAFETY ANALYSER	ESA - 612	2111026	15.05.2021	14.05.2022

#### TEST REPORT

Test	Туре	Results	Limits
Main Voltage	Line Neutral	236.4	240v+-10%
Current consumption		0673mA	NA
Insulation resistance	Ground resistance	71.5M ohm	200m ohm
Earth leakage current	Open supply	41.4	1000 micro amps
Earth leakage current	Normal condition	26.8	500 micro amps
Earth leakage current	Open supply reverse mains	41.6	1000 micro amps
Earth leakage current (Callo	Normal condition, reverse mains	23.9	500 micro amps
Enclosure leakage current	Open supply ditated a	001 Calif	500 micro amps
Enclosure leakage current	Normal condition	00	100 micro amps
Enclosure leakage current	Open earth	28.5	500 micro amps
Enclosure leakage current	Open supply reverse mains	00	500 micro amps
Enclosure leakage current	Normal condition, reverse mains	00	100 micro amps
Enclosure leakage current	Open earth, reverse mains	26.6	500 micro amps

Electrical safety test passed as per IEC Stand 60601.1

Calibration Passed: Yes

No

Calibration Done Date: 14.12.2021

Calibration Due Date: 13.12.2022

Calibrated By: Ms. M. Swathi, Engineer

**Approved By:** 

**Engineering Manager** 

The above mentioned instrument has been certified using standards with accuracy guidelines traceable to the national institute of standards & technology (NIST). Devices, for which there are no NIST calibration standards, were measured against in-house performance standard using accepted test procedures.

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