

# Ace Medical Solutions (India) Pvt. Ltd.

An ISO 9001-2015 Certified Company

No : 3/751, 1st Cross Street, Surveyor Colony, K.Pudur, Madurai - 625 007.

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GSTIN. 33AAHCA8053H1ZR • DL No. MDU/4205/20B,MDU/3971/21B • CIN : U33110TN2009PTC072140

## CALIBRATION CERTIFICATE



Customer Name & Address:	M/S. VSV Labs, No.45, Ponmeni Narayanan Street, S.S Colony, Madurai – 625 016	Certificate No:	AMS/LAB/2888494
		Issuing Date:	26/11/2020
		Page No:	1 of 2

### Details of Device under Calibration (DUC):

DUC:	Bio Chemistry Analyser	Id. No:	VSV/LAB/BCA/001
Make:	ERBA Mannheim	Department:	Laboratory
Model:	Chem – 5 plus	Calibrated On:	25/11/2020
Sl. No:	S-201019	Calibration Due Suggested:	24/11/2021
Type:	Semi Auto	DUC Condition on Receipt:	OK
Range & Least Count:	---		

### Traceability Details:

Sl.No.	Test Equipment	Make	Certificate Number	Valid Up to
1	Electrical Safety Analyser	RigelSafeTest60	PSG/CIRD/BMCC/4424/2020	19/01/2021
2	Thermo Hygrometer	HTC	QC/AMS-DTI-004	22/02/2021

Room Temperature: 25°C±2 Room Humidity: 30-60% (At the time of Calibration)

### ESA Test Results:

SL.No	Parameter	ESA Reading	Unit	Normal Range	Condition
1	Current	216	mA	1	Normal
2	Frequency	49.83	Hz	49 -50	Normal
3	Mains Voltage Line - Neutral	213.54	Volts	220 - 240	Normal
4	Mains Voltage Line - Earth	213.75	Volts	220 - 240	Normal
5	Mains Voltage Neutral - Earth	4.0	Volts	< 7	Normal

\*Electrical Safety: Please check the attached log sheet

SL.No	Parameter	Measured	Standard	Correction	Unit
1	Lamp Voltage	11.14	12.00	-0.86	Volts
2	Detector Sensitivity	-0.00	0.0	0.0	% Absorbance
3	Sipper Volume	410	400	+10	ml
4	Peristaltic Pump pressure	15.375	15	+0.375	cmH <sub>2</sub> O

Allowable Tolerance: set by Customer

Note:

1. Calibration Points were selected as per customer request.
2. Each reading were taken by Repeatability Test (i.e.) each reading in a row is a mean of 10 readings.
3. Results Reported are valid at the time of and under the stated conditions of measurements.

**Calibrated By:**

(Calibration Engineer)

B. S. S.



**Approved by:**

(Technical Manager)

B. S. S.

ESA Results:

Test Number	Test Standard	Test	Condition	Filter Selection	Reading Value	Reading Unit	Polarity	Neutral	Earth	Applied Parts
1	Earth Bonding	Earth Bond Voltage	Normal	AC+DC	0.1420	$\Omega$	Normal	Closed	Closed	All

2	IEC60601	Leakage: Earth	Normal	AC+DC	115.30	$\mu$ A	Normal	Closed	Closed	All
3		Leakage: Earth	Normal	AC+DC	108.10	$\mu$ A	Reversed	Closed	Closed	All
4		Leakage: Enclosure	Normal	AC+DC	0.00	$\mu$ A	Normal	Closed	Open	All
5		Leakage: Enclosure	Normal	AC+DC	0.00	$\mu$ A	Reversed	Closed	Closed	All
6		Leakage: Earth	SFC	AC+DC	223.50	$\mu$ A	Normal	Open	Closed	All
7		Leakage: Earth	SFC	AC+DC	213.81	$\mu$ A	Reversed	Open	Closed	All
8		Leakage: Enclosure	SFC	AC+DC	116.70	$\mu$ A	Normal	Closed	Open	All
9		Leakage: Enclosure	SFC	AC+DC	121.30	$\mu$ A	Reversed	Closed	Open	All
10		Current	Normal	AC+DC	0.216	Amps	Normal	Closed	Closed	All
11		Frequency	Normal	AC+DC	49.83	Hz	Normal	Closed	Closed	All
12		Mains Voltage: Live to Neutral	Normal	AC+DC	213.54	V	Normal	Closed	Closed	All
13		Mains Voltage: Live to Earth	Normal	AC+DC	213.75	V	Normal	Closed	Closed	All
14		Mains Voltage: Neutral to Earth	Normal	AC+DC	4	V	Normal	Closed	Closed	All

15	IEC62353	Equipment Leakage	Direct Method	AC+DC	138.00	$\mu$ A	Normal	Closed	Open	All
16		Equipment Leakage	Direct Method	AC+DC	137.70	$\mu$ A	Reversed	Closed	Open	All

17	NFPA-99	Ground Leakage	Normal	AC+DC	117.30	$\mu$ A	Normal	Closed	Closed	All
18		Ground Leakage	Normal	AC+DC	114.20	$\mu$ A	Reversed	Closed	Closed	All
19		Ground Leakage	SFC	AC+DC	225.50	$\mu$ A	Normal	Open	Closed	All
20		Ground Leakage	SFC	AC+DC	225.70	$\mu$ A	Reversed	Open	Closed	All
21		Chassis Leakage	Normal	AC+DC	0.00	$\mu$ A	Normal	Closed	Closed	All
22		Chassis Leakage	Normal	AC+DC	0.00	$\mu$ A	Reversed	Closed	Closed	All
23		Chassis Leakage	SFC	AC+DC	119.30	$\mu$ A	Normal	Closed	Open	All
24		Chassis Leakage	SFC	AC+DC	114.90	$\mu$ A	Reversed	Closed	Open	All

25	IEC61010	Touch Leakage	Normal	AC+DC	0.00	$\mu$ A	Normal	Closed	Closed	All
26		Touch Leakage	Normal	AC+DC	0.00	$\mu$ A	Reversed	Closed	Closed	All
27		Touch Voltage	Normal	AC+DC	2.29	V	Normal	Closed	Closed	All
28		Touch Voltage	Normal	AC+DC	2.29	V	Reversed	Closed	Closed	All
29		Touch Leakage	SFC	AC+DC	111.06	$\mu$ A	Normal	Closed	Open	All
30		Touch Leakage	SFC	AC+DC	110.30	$\mu$ A	Reversed	Closed	Open	All
31		Touch Voltage	SFC	AC+DC	2.29	V	Normal	Closed	Open	All
32		Touch Voltage	SFC	AC+DC	2.29	V	Reversed	Closed	Open	All

33	Insulation Testing	Insulation Resistance	Normal	AC+DC	>20	M $\Omega$	Normal	Closed	Closed	All
34	Point to Point Testing	Point to Point Earth Bond Test	Normal	AC+DC	>19.9	$\Omega$	Normal	Closed	Closed	All
35		Point to Point Leakage Test	Normal	AC+DC	0	mA	Normal	Closed	Closed	All
36		Standard Insulation Test	Normal	AC+DC	>20	M $\Omega$	Normal	Closed	Closed	All

Test Passed	yes	Tested On	25/11/2020	Tested By	B. B. S.
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