



CALIBRATION CERTIFICATE-MINDRAY BS-240E

This is to certify that Mindray BS 240E, fully automated biochemistry analyzer having serial no. BC-8-27000246 has been calibrated on 09.11.2023 and results are found well within range.

Lab Name	Promila Diagnostic Center, Lucknow(U.P.)
Instrument Name	Mindray BS-240E
Instrument Model/Sr No.	BS-240E / BC-8-27000246
Calibration Date	09.11.2023
Next Calibration Due Date	09.11.2024

Test Parameter	Required Value	Measured Value
Input Voltage	230~240 V	231
Incubation Temperature	37°C+/-1max	37°C
Reagent Tray Temperature	5~15°C	8°C
Detector Performance Check @All Wavelength	6000~16000	Within range
12V Lamp Supply	12+/-0.3Volts	12.1 Volts
5V Lamp Supply	5+/-0.3 Volts	5.06 Volts
24V Lamp Supply	24+/-0.3 Volts	24.2 Volts
Water Blank	(1800)of the water blank value	Within range

3. The models, specifications, configurations and quantities of the main unit and accessories match the packing list. Qualified Unqualified
4. Complete delivery attached documentation (software CD, operating instructions, maintenance card, product certification, etc.) Qualified Unqualified

Application and Service Engineer
Redcell Technocare Pvt.Ltd
Date: 15.08.2023

Acceptance Personnel(Signature/Seal):
Acceptance Date:15.08.2023

(II) Basic Performance Acceptance

1. Working Environment

Ambient Temperature (15 - 30 °C)	25	Ambient Humidity (35% - 85%)	45
Grid Voltage (V)	230V	Grid Frequency (Hz)	50Hz
Zero Field Voltage (≤5V)	2V	Atmospheric Pressure	NA
Reac Temp (37±0.3°C)	37	DI Water/Wash Solution Temp (15-30°C)	20

2. System Status Check

- a) The Reac Temp is OK Qualified Unqualified
- b) The Reagent Refrigeration Temp is OK Qualified Unqualified
- c) The Sample Compartment Temperature is OK Qualified Unqualified
- d) The Reagent Preheating Temperature is OK, Qualified Unqualified
- e) Sample and Reagent Probe Movement Is OK Qualified Unqualified
- f) The Reagent and Sample Mixer Movement Is OK Qualified Unqualified
- g) The D/W Tank is in the normal status Qualified Unqualified

Calibrator Details:
MULTI SERA CALIBRATOR
Lot No.:150123004
Expiry: 29.03.2025

QC Details:
CLINCHEM MULTI CONTROL L1
Lot No.: 059323004
Expiry: 10.03.2025

QC Details:
CLINCHEM MULTI CONTROL L2
Lot No.: 059423002
Expiry: 03.02.2025

For Redcell Technocare Pvt. Ltd.


NIKHIL VERMA
Lucknow
(Service Engineer)

PHOTOMETER CHECK

CURRENT STATUS

TEST DATE : 09.11.2023

WAVELENGTH	ABSORBANCE
340	5615
380	5681
412	5576
450	5543
505	5456
546	5486
570	5427
605	5516
660	5546
700	5427
740	5478
800	5523

CURRENT STATUS (OK)

Application and Service Engineer

Acceptance Personnel



Redcell

Technocare Pvt.Ltd.

Redcell Technocare Pvt.Ltd.

Acceptance Date 09.11.23

Cuvette Blank Result

Cuv	340	380	412	450	505	546	570	605	660	700	740	800
1	12808	11702	10574	9954	9180	8723	8547	8209	7875	7580	7416	7164
2	12598	11511	10389	9778	9015	8569	8395	8068	7745	7453	7294	7047
3	12408	11338	10179	9571	8814	8368	8197	7866	7543	7252	7096	6853
4	12355	11237	10122	9504	8758	8288	8115	7784	7457	7166	7008	6760
5	12414	11303	10188	9558	8789	8342	8173	7844	7521	7227	7070	6831
6	12400	11292	10133	9513	8744	8295	8124	7790	7457	7164	6996	6734
7	12345	11266	10109	9493	8725	8274	8102	7767	7439	7151	6990	6742
8	12382	11313	10154	9533	8764	8316	8144	7807	7475	7180	7015	6766
9	12329	11325	10136	9526	8762	8315	8145	7807	7479	7188	7023	6771
10	12248	11202	10046	9432	8668	8221	8051	7718	7392	7099	6933	6678
11	12395	11325	10134	9503	8726	8274	8097	7759	7426	7132	6967	6717
12	12116	11019	9917	9310	8552	8105	7937	7618	7291	7004	6847	6601
13	12056	11032	9884	9278	8526	8085	7917	7587	7256	6979	6822	6582
14	12095	11007	9895	9283	8520	8075	7903	7573	7248	6957	6794	6546
15	12321	11201	10092	9476	8709	8257	8081	7747	7413	7116	6951	6701
16	12150	11099	9945	9341	8593	8155	7988	7660	7337	7046	6882	6621
17	12175	11111	9939	9352	8599	8158	7989	7660	7340	7053	6897	6634
18	12155	11106	9967	9359	8608	8171	8003	7674	7352	7064	6903	6659
19	12253	11241	10053	9422	8662	8215	8045	7719	7395	7095	6936	6691
20	12340	11283	10168	9567	8818	8377	8208	7879	7554	7261	7099	6843
21	12557	11486	10293	9668	8891	8438	8263	7936	7601	7307	7149	6904
22	12587	11467	10348	9725	8952	8498	8324	7993	7663	7370	7208	6956
23	12509	11440	10257	9632	8859	8408	8234	7896	7570	7281	7122	6882
24	12493	11385	10253	9598	8810	8349	8170	7832	7492	7194	7029	6779
25	12439	11294	10193	9570	8801	8354	8181	7853	7526	7233	7075	6820
26	12345	11262	10069	9473	8711	8275	8109	7781	7464	7178	7018	6768
27	12490	11357	10215	9579	8791	8323	8147	7804	7464	7167	7000	6741
28	12404	11297	10125	9495	8718	8269	8094	7756	7428	7132	6971	6721
29	12345	11324	10111	9458	8674	8219	8045	7704	7373	7081	6921	6677
30	12434	11353	10187	9560	8785	8336	8161	7827	7500	7205	7042	6790
31	12446	11374	10182	9547	8763	8306	8129	7791	7454	7161	6997	6745

Cuvette Blank Result

Cuv	340	380	412	450	505	546	570	605	660	700	740	800
32	12170	11091	9999	9357	8595	8154	7985	7659	7335	7047	6890	6648
33	12059	10989	9846	9240	8487	8049	7882	7554	7237	6951	6797	6560
34	12109	11011	9957	9268	8499	8055	7882	7556	7220	6930	6772	6526
35	12356	11213	10109	9484	8709	8253	8078	7743	7408	7111	6947	6697
36	12271	11123	9972	9338	8572	8135	7964	7634	7305	7011	6846	6588
37	12208	11153	9993	9376	8617	8175	8005	7677	7358	7074	6917	6678
38	12195	11093	9947	9334	8572	8129	7958	7627	7297	7004	6843	6595
39	12240	11246	9991	9383	8626	8183	8015	7679	7356	7068	6907	6665
40	12323	11228	10085	9468	8702	8253	8084	7751	7422	7127	6963	6711
41	12587	11465	10317	9667	8880	8418	8238	7898	7556	7260	7095	6841
42	12541	11430	10305	9682	8906	8450	8275	7943	7615	7322	7160	6913
43	12351	11292	10135	9517	8754	8312	8140	7808	7485	7199	7039	6801
44	12278	11148	10034	9422	8660	8210	8038	7704	7378	7086	6927	6683
45	12426	11277	10169	9541	8767	8311	8136	7801	7468	7174	7012	6767
46	12326	11209	10065	9442	8675	8224	8053	7719	7387	7093	6927	6666
47	12262	11184	10040	9419	8653	8203	8029	7696	7368	7076	6918	6673
48	12390	11251	10099	9470	8700	8251	8079	7745	7415	7121	6959	6711
49	12433	11334	10149	9526	8747	8293	8117	7775	7441	7145	6980	6729
50	12357	11258	10099	9472	8701	8251	8079	7746	7416	7119	6952	6697
51	12354	11236	10094	9465	8688	8235	8055	7724	7391	7098	6937	6691
52	12241	11132	10041	9433	8668	8220	8042	7711	7377	7084	6920	6670
53	12200	11091	9954	9333	8566	8115	7944	7610	7282	6992	6831	6586
54	12192	11089	9955	9340	8576	8130	7958	7632	7308	7015	6857	6614
55	12242	11134	10027	9410	8644	8197	8027	7697	7371	7078	6914	6668
56	12235	11234	10008	9390	8615	8178	8010	7681	7365	7076	6918	6675
57	12069	11032	9841	9239	8489	8055	7880	7563	7253	6971	6817	6581
58	12056	11023	9852	9247	8499	8065	7889	7570	7252	6966	6813	6571
59	12142	11177	9941	9344	8597	8160	7992	7660	7346	7064	6907	6669
60	12409	11396	10208	9611	8865	8428	8267	7936	7623	7338	7179	6930
61	12444	11376	10244	9642	8888	8447	8278	7952	7630	7345	7188	6947
62	12401	11380	10215	9619	8867	8427	8259	7937	7618	7333	7178	6935

Cuvette Blank Result

Cuv	340	380	412	450	505	546	570	605	660	700	740	800
63	12264	11202	10041	9426	8665	8222	8060	7720	7399	7114	6958	6725
64	12105	11004	9907	9304	8555	8115	7948	7622	7300	7010	6853	6609
65	12180	11049	9948	9337	8580	8135	7965	7640	7312	7023	6865	6621
66	12124	11073	9922	9313	8567	8134	7967	7643	7321	7034	6874	6619
67	12160	11080	9938	9331	8574	8133	7964	7638	7313	7027	6870	6629
68	12161	11064	9916	9302	8544	8102	7933	7605	7281	6990	6830	6585
69	12166	11128	9932	9323	8564	8121	7955	7623	7306	7021	6865	6629
70	12117	11058	9912	9305	8550	8109	7941	7615	7294	7004	6845	6601
71	12369	11260	10092	9461	8684	8235	8067	7725	7391	7099	6936	6687
72	12286	11148	10062	9448	8683	8236	8067	7739	7416	7126	6968	6725
73	12191	11091	9940	9328	8557	8103	7929	7593	7261	6969	6804	6557
74	12151	11043	9935	9320	8556	8105	7932	7599	7268	6974	6810	6599
75	12467	11267	10139	9504	8717	8257	8080	7743	7405	7107	6943	6695
76	12200	11110	9944	9326	8563	8120	7951	7623	7295	7003	6840	6581
77	12189	11109	9957	9341	8578	8136	7965	7635	7311	7025	6869	6627
78	12231	11153	9999	9379	8615	8171	8003	7671	7344	7055	6895	6651
79	12210	11193	10009	9399	8638	8196	8029	7694	7373	7083	6929	6690
80	12459	11400	10264	9658	8904	8464	8296	7970	7649	7361	7202	6955

SOP Preventive Maintenance Mindray BS-240/BS-240E

S.NO.	Description	Status
1-	Check if the power supply and earthing voltage is OK.	✓
2-	Instrument appearance is clean,, the tubes and cables are clear and not bent.	✓
3-	Clean exterior wall of the probe, mixing probe, wash station probes and waste sensor and remove visible dirt and blockage if any.	✓
4-	Clean the wash wells.	✓
5-	Clean the cuvettes physically.	✓
6-	Check S/R syringe for any leakage and bubbles.	✓
7-	Check and replace filters in DI water and detergent path.	✓
8-	Check for dust screen is clean and not damaged.	✓
9-	Check cooling fan is clean and rotates without abnormal noise.	✓
10-	If required perform probe de-bug and ensure correct probe positioning at different positions.	✓
11-	Check for proper cooling and incubation temperature is OK.	✓
12-	Perform photometer check and cuvette check.	✓
13-	Perform repeatability test for any three parameters and run QC.	✓
14-	Take the feedback and signature in the service report.	✓


NIRHIL VERMA
Technician
(Service Engineer)
27/1/24