

TRANSASIA

Erba EM-200

AUTOMATED BIOCHEMISTRY ANALYZER

IQ, OQ, PQ Documents

For

SR Diagnostics Center, Sewa-Rural, Jhagadia

Marketed by:

Transasia Bio-Medicals Ltd.,  
(ISO 9001:2008 & ISO 13485:2003 CERTIFIED)

Transasia House,  
Chandivali Studio road,

Andheri (E),


MUMBAI - 400 072

TRANSASIA BIOMEDICALS LIMITED			TRANSASIA Bio-Medical Ltd
INSTALLATION QUALIFICATION			
Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286



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**1.0 PRE APPROVAL****1.1 Prepared By**

Name	Designation	Signature	Date
Mr. Jitesh Gandhi	Service Manager		19/03/2021

**1.2 Checked By**

Name	Designation	Signature	Date
Dr. Gayatri Desai	Lab Incharge		19/03/2021
Mr. Rajendra Kachhia	Lab Tech		19/03/2021

**1.3 Approved By**

Name	Designation	Signature	Date
Dr. Gayatri Desai	Lab Incharge		19/03/2021

**Note: After the Pre-Approval, this document is effective for the execution.**

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## 2.0 OBJECTIVE

The objective of this document is to provide an outline for the inspection of EM 200 (Bio-Chemistry Random Analyzer) and to verify that the following boundaries:

- Each Installed subcomponent complies with the engineering design and instrument data sheet / design specifications & manufacturer's recommendations.
- To ensure that all the safety features are defined before the start up of operational qualification exercise.
- The system meets the current regulatory requirements.
- To identify the Standard operating procedures for Operational Qualification.

## 3.0 SCOPE

The scope of this protocol is to outline procedure for Installation qualification of the subjected instrument within the following boundaries:



- Identification and verification of its Major components / Accessories
- Identification, Classification and Verification of Process Control Instruments / Gauges / Devices
- Identification and verification of Material of Construction
- Identification and verification of Supporting Utilities
- Identification of Standard Operating Procedures
- Identification and Verification of Documents



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Bio-Medical

Instru	me	Clinical Chemistry Analyzer	Instrument ID	2002286
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**4.0 EXECUTION TEAM**

Name	Department	Designation	Signature
Dr. Gayatri Desai	Laboratory	Lab Incharge	
Mr. Rajendra Kachhia	Laboratory	Lab Tech.	

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<b>INSTALLATION QUALIFICATION</b>			
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## 5.0 INSTRUMENT DESCRIPTION

The Clinical Chemistry Analyzer is a close, fully automated, discrete, patient prioritized, random access, computerized analyzer.

### Technical Specifications:

System Type	Close, Automated, Discrete, Random Access, Patient Prioritized, 1/2 Reagents
Analysis Speed	200 Biochemistry tests per hour 400 tests per hour (with ISE) for a cycle time of 18 seconds
Display resolution	1024 X 768
Analyzer Dimensions	810 (W) x 800 (D) x 600 (H) mm
Number of tests on board	Maximum: 50
Assay Modes	1-point, 2-point, Rate-A and Rate -B, ISE optional
Calibration	Linear (two point and multi point), Factorized and Non-linear multipoint
Sample (Tubes / Cups)	Primary tubes of 5, 7 or 10mL & sample cups
Photometric Optics	Mono and Bi-chromatic measurement using 8 wavelengths
Absorbance Range	0 – 2.5
Auxiliary Data	10,000 results
Interface	RS-232 C port for Bi-directional Communication
Stat Sampling	Total 30 positions

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<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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**Purpose:**

The purpose of this instrument is to analyze the bio-chemical parameters, such as Sugar, Cholesterol, Tri-glycerides, Proteins, etc.

The working unit of the analyzer comprises the following:

- Basic operating unit with an intelligent photometer
- Sophisticated robotics combined with an operating console and a central processing unit (CPU).

**Operating Unit:**

The operating unit of the analyzer includes the sample and reagent handling systems. The sample handling system consists of a sample tray, sample arm, sample syringe and a wash station for the sample probe.

**Photometric System:**

The photometric system consists of 45 hard glass cuvettes, multi wavelength diffracting photometer and a halogen lamp.


**Operating Console:**

The operating console consists of a touch screen (optional) color TFT monitor, a key board and a mouse.

**CPU (Central Processing Unit):**


CPU consists of Pentium – IV 1.7 GHz processor (or Higher) with a 48 x CD Drive, and minimum 256 MB memory. The application software can be installed on computers with operating systems of Windows XP.

Besides the above mentioned, this analyzer has got the unique Software and Hardware features.


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INSTALLATION QUALIFICATION			
Instrument Name	Clinical Chemistry Analyzer	Instrument ID	

## 6.0 IDENTIFICATION OF MAJOR COMPONENTS / ACCESSORIES

Details of each major component identified in this section, is recorded in a data sheet under the section **08.0**.

Name of Component / Accessories	Present	Verified by Signature	Observations
	Yes / No		
Sample Tray / Disk	Yes		
Sample Syringe	Yes		
Sample Probe	Yes		
Wash Station for Sample Probe	Yes		
Reagent Tray / Disk	Yes		
Reagent Bottles	Yes		
Reagent Probe	Yes		
Stirrer	Yes		
Permanent Reaction Cuvette	Yes		
9 Stage Laundry System	Yes		
Light Source	Yes		
Sample Cups	Yes		
Software of EM 200	Yes		

## 7.0 INSTALLATION CHECK / REVIEW

S. No.	Statement	Yes / No	Verified by Signature
1.	Verify that the "as built" drawings are complete and represent the design concept	yes	
2.	Verify that major components / accessories are securely anchored and shock proof.		
3.	Verify that there is no observable physical damage.		
4.	Verify that there is sufficient room of servicing provided		
5.	Verify that all utilities and electrical connections have been done according to the drawings.		
6.	Walking access to ground mounted instrument provided.		
7.	Required electric connections are tight, weather proof and earthed.		
8.	Instrument identification nameplate visible.		
9.	Units installed on foundation and secure in place as per manufacturer's recommendations.		
10.	Verify that the instruments installed and leveled properly on the floor.		
11.	Verify that the Material of Construction is proper and meeting the requirements.		



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<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>	

## 8.0 INSPECTION CHECK / REVIEW

### Instructions for completing the check / review

1. For each **data sheet**, record the required information with pen. Wherever required record "Yes" for acceptance, "No" for non-compliance and "NA" for not applicable.  
  
**"No" replies must be explained / justified.**
2. When more than one component of same specification/type exists in the same equipment, individual data sheets should be filled for each component.
3. When a list of acceptable options is presented, tick (✓) the option that is **actually present**.
4. In the "**Method of Verification**" column indicate that item is installed and inspected according to manufacturer's specifications, such as by Visual / Physical, SOP, Test Certificate, Manual, etc.

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**INSTALLATION QUALIFICATION**



<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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**Instrument/ Component Name: Sample Tray / Disk**

**Date : 19/03/2021**


<b>Description</b>	<b>Specified</b>	<b>Actual</b>	<b>Method of Verification</b>	<b>Verified by Signature</b>
No. of patient cups / samples	30 positions	30	Visual	
Standards / Stat	30 positions	30	"	
Blank	Can be put on any position	Same as specified	"	
Controls	Can be programmed on any positions	Same as specified	"	

## INSTALLATION QUALIFICATION

Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286
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**Instrument/ Component Name:** Sample Syringe

**Date :** 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Dispensing Volume	2 - 70 $\mu$ L	2 - 70	Physical	
Installed Location	Behind the instrument on the right side	Same as specified	"	
Quantity	01 No.	1	"	
Increase in dispensing volume	0.2 $\mu$ L	0.2 $\mu$ L	"	

Instrument Name

Clinical Chemistry Analyzer


Instrument ID

2002286

Bio-Medical

Instrument/ Component Name: Sample Probe

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Aspiration Volume	2 – 70 $\mu$ L	2 – 70 $\mu$ L	physical	
MOC	Teflon coated	Same as specified	Manual	
Quantity	01 No.	1	physical	
Increase in aspiration volume	0.2 $\mu$ L	0.2 $\mu$ L	physical	

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**INSTALLATION QUALIFICATION**



<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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**Instrument/ Component Name: Wash Station for Sample Probe**

**Date : 19/03/2021**

<b>Description</b>	<b>Specified</b>	<b>Actual</b>	<b>Method of Verification</b>	<b>Verified by Signature</b>
No. of position	01 No	1	Visual	} Kelly
Type of positions	i) Drain ii) Trough	Same as specified	Visual	



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**INSTALLATION QUALIFICATION**



<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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**Instrument/ Component Name: Reagent Tray / Disk**

**Date : 19/03/2021**

<b>Description</b>	<b>Specified</b>	<b>Actual</b>	<b>Method of Verification</b>	<b>Verified by Signature</b>
Cool reagent disk	50 positions	50	Visual	
Outer Rings	25 positions	25	"	
Inner Rings	25 positions	25	"	
Adaptors of 5mL	50 positions	50	"	
Maintenance of Temperature	8-12°C ± 2°C	Same as specified	"	
Rotation of disk	Counter-Clockwise	Same as specified	"	
Time for Rotation of one Cuvette	Every 18 seconds	Same as specified	"	

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INSTALLATION QUALIFICATION



Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286
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Instrument/ Component Name: Reagent Bottles

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Minimum Capacity	20 mL	20 ml	Physical	
Maximum Capacity	50 mL	50 ml	"	
Quantity (Large)	25 Nos'	25 Nos	Visual	
Quantity (Smaller)	25 Nos'	25 Nos	"	
Type	Screw Capped	Screw Cap	"	
Outer ring position	20 mL bottles & 5ml adaptors	Same as specified	"	
Inner ring position	20 mL & 50 mL bottles & 5ml adaptors	Same as specified	"	
MOC	Plastic	plastic	"	
Adaptor	50 Nos'	50 Nos.	Physical	
Adaptor Capacity	5 mL	5 ml	"	
Identification of Reagents	Barcode labels on the reagent containers	Same as specified	"	

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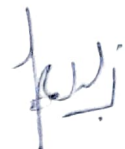
INSTALLATION QUALIFICATION

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Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286
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Instrument/ Component Name: Reagent Probe

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Aspiration/Dispensing Volume	R1: 50 – 300 $\mu$ L	50-300 $\mu$ L	Physical	
	R2: 0 or 10 – 300 $\mu$ L	0-10 $\mu$ L	"	
MOC	Teflon coated	Teflon	"	
Quantity	01 Nos.	1	"	
Increase in aspiration/dispensing volume	1 $\mu$ L	1 $\mu$ L	"	

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**Instrument/ Component Name:** Reagent Syringe

**Date :** 19/03/2021

<b>Description</b>	<b>Specified</b>	<b>Actual</b>	<b>Method of Verification</b>	<b>Verified by Signature</b>
Maximum capacity	500 µL	500 µL	Physical	
Installed Location	At the back of the instrument on the right side	Same as specified	"	
Quantity	01 No.	1	"	
Increase in dispensing volume	1 µL	1 µL	"	

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<b>INSTALLATION QUALIFICATION</b>			
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**Instrument/ Component Name:** Stirrer

**Date :** 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Type	Single Stirrer	<i>Single</i>	<i>Visual</i>	} <i>[Signature]</i>
No. of paddles	01 No.	<i>1 No.</i>	<i>"</i>	



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Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286
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Instrument/ Component Name: Permanent Reaction Cuvette

Tag/Identification No.:

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Quantity	45 Nos'	65 Nos	Visual	}
MOC	Hard Glass	Hard Glass	"	
Capacity	770 µL	770 µL	physical	

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**INSTALLATION QUALIFICATION**



Instrument Name


Clinical Chemistry Analyzer

Instrument ID

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**Instrument/ Component Name: 7 Stage Laundry System**

**Date : 19/03/2021**

Description	Specified	Actual	Method of Verification	Verified by Signature
Nozzles	Nozzle - 1	1	Visual	
	Nozzle - 2	2	"	
	Nozzle - 3	3	"	
	Nozzle - 4	4	"	
	Nozzle - 5	5	"	
	Nozzle - 6	6	"	
	Nozzle - 7	7	"	

Instrument Name


Clinical Chemistry Analyzer

Instrument ID

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Instrument/ Component Name: Light Source

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Watts	12 W	12 W	physical	} 
Volts	12 V	12 V	"	
MOC	Halogen	Halogen	Manual	
Quantity	01 No	1 No.	physical	

Instrument Name

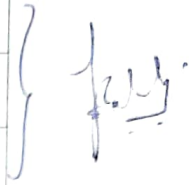
Clinical Chemistry Analyzer

Instrument ID

2002286

Instrument/ Component Name: Sample Cups

Date : 19/03/2021

Description	Specified	Actual	Method of Verification	Verified by Signature
Quantity	300 Nos'	300 No.	Certificate	} 
MOC	Plastic	plastic	Visual	
Capacity	2 mL	2 ml	physical	

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<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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**Instrument/ Component Name: Software of EM 200**

**Date : 19/03/2021**

<b>Description</b>	<b>Specified</b>	<b>Actual</b>	<b>Method of Verification</b>	<b>Verified by Signature</b>
Version		2019-07A		}
CD number				
Product	EM- 200	EM- 200		
Make	Erba Transasia	TBM		



Instrument Name

Clinical Chemistry Analyzer


Instrument ID

2002286

9.0 IDENTIFICATION AND VERIFICATION OF MATERIAL OF CONSTRUCTION

Identify and list down all components of the equipment for its material of construction.

*Method of Test may be Molybdenum Test, Test Certificate, Manual, etc.*

Component (s)	Material of Construction	Actual	Method of Verification	Verified by Sign & Date
Sample Probe	Teflon coated	Same as MOC	Certificate	
Reagent Probe	Teflon coated	"	"	
Permanent Reaction Cuvette	Hard Glass	"	"	
Light Source	Halogen	"	"	
Reagent Bottle	Plastic	"	Visual	
Sample Cups	Plastic	"	"	

Instrument Name


Clinical Chemistry Analyzer

Instrument ID

2002286

10.0 IDENTIFICATION AND VERIFICATION OF SUPPORTING UTILITIES

List the supporting utilities and record whether or not they are properly connected and identified.

Utilities	Observation / Result	Verified by Sign & Date
Power	Yes	
Distilled Water	Yes	
Wash Solution	Yes	
UPS	Yes	

Instrument Name

Clinical Chemistry Analyzer

Instrument ID

2002286

**11.0 IDENTIFICATION OF STANDARD OPERATING PROCEDURE**

SOP No.	Title
Operation	Operation of Bio-Chemistry Random Analyzer
Calibration	Calibration of Parameters
Controls	Checking of Controls for Parameters
Maintenance	Maintenance / Checking of Distilled water, Waste, Wash solution, Cuvette rinse, Sample probe wash and Water save
Cleaning	Cleaning of Instrument surface

Instrument Name


Clinical Chemistry Analyzer

Instrument ID

2002286

**12.0 IDENTIFICATION AND VERIFICATION OF DOCUMENTS**

**12.1 DRAWINGS**

Title	Drawing No.	Verified by
As-built Drawing		Sign & Date
		

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INSTALLATION QUALIFICATION  
Clinical Chemistry Analyzer

Instrument Name

Instrument ID

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12.2 GENERAL DOCUMENTS

Title	Document No.	Verified by Sign & Date
General		
Purchase Order No.		
Warranty Certificate		
Invoice		
<b>Test Certificates</b>		
Material of Construction		
Electrical Motor		

TRANSASIA BIOMEDICALS LIMITED  
INSTALLATION QUALIFICATION

Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286	
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13.0 DEFICIENCIES / DEVIATIONS:

- No deficiencies / deviations observed.
- Installation done Successfully.

Reviewed by:

Name	Signature	Date
Mr. Rajendra Kachhia		19/03/2021




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INSTALLATION QUALIFICATION

Instrument Name	Clinical Chemistry Analyzer	Instrument ID	2002286	<b>TRANSASIA</b> Bio-Medics Ltd
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14.0 SUMMARY AND EVALUATION:

- Installation done Successfully.

Reviewed by:

Name	Signature	Date
Mr. Rajendra Kachhia		19/03/2021

**TRANSASIA BIOMEDICALS LIMITED**  
**INSTALLATION QUALIFICATION**

<b>Instrument Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>	 <b>TRANSASIA</b> Bio-Medical Ltd.
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15.0 **ABBREVIATIONS**

<b>SOP</b>	<b>Standard Operating Procedure</b>
<b>MOC</b>	<b>Material of Construction</b>
<b>IQ</b>	<b>Installation Qualification</b>

Instrument ID      2002286

**POST APPROVAL:**

16.0

16.1      Checked by

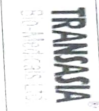
Name	Designation	Signature	Date
Mr. Jitesh Gandhi	Service Manager	<i>Jitesh Gandhi</i>	19/03/2021

16.2      Approved by

Name	Designation	Signature	Date
Dr. Gayatri Desai	Lab Incharge	<i>Gayatri Desai</i>	19/03/2021

Note: This report is effective from the date of approval.

**TRANSASIA BIOMEDICALS LIMITED**  
**OPERATIONAL QUALIFICATION CHECKLIST**



<b>Name</b>	<b>Clinical Chemistry Analyzer</b>	<b>Instrument ID</b>	<b>2002286</b>
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operational qualification, the following checks shall be done and each test shall be recorded:

**Start-up**

and establish the standard sequence to be followed, during start-up of the subjected instrument in manual mode, to propose for correct operation and to avoid any damage to the instrument and

**Checks**

and ensure that different functions (such as switching devices, indication / monitoring / devices, feedback system, etc.) for correct operation of the subjected instrument are working as

**and Alarms Check**

and ensure that the interlocks and alarms (such as status indication system, negative feed back control loops, sound alarms, etc.) for correct control and monitoring of the operation cycle are expected.

**Security Checks**

and ensure that the safety / security functions (such as program logging, process control, safety systems, password check, etc.) to protect the instrument and personnel are working as

**Shutdown**

and establish the standard sequence to be followed, during shut-down of the subjected instrument in Auto / Manual mode, to propose for correct operation and to avoid any damage to the instrument and personnel.

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**OPERATIONAL QUALIFICATION CHECKLIST**

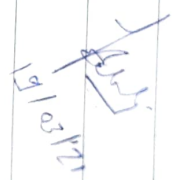
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 INDIA

Instrument Name **Clinical Chemistry Analyzer** Instrument ID **2002286**

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**10. INSTRUMENT START-UP:**

Refer the Operator's Manual for the procedures, for the following activities:

Action	Observation	Verified by (Sign & Date)	Remarks
Ensure that all the required electrical connections are properly connected.	Yes		-
Ensure the proper filling of double distilled / de-ionized water and Cleaning solution in the respective cans.	Yes		-
Ensure the availability of XL Wash.	Yes		-
Ensure the availability of Biohazard Waste.	Yes		-
Ensure the availability of Normal Waste.	Yes		-
Switch ON the rear switch of the analyzer.	Yes / O.K		-
Switch ON the side switch of the analyzer.	O.K		-
Switch ON the computer and start the analyzer application software.	O.K		-
Initialization	O.K		-

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**OPERATIONAL QUALIFICATION CHECKLIST**





Instrument Name **Clinical Chemistry Analyzer** Instrument ID **2002286**

**FUNCTIONAL CHECKS:**

**Maintenance:**

Refer the Operator's Manual for the procedures, for the following activities:

Activity	Observation	Verified by (Sign & Date)	Remarks
Spectrophotometer functioning	O.V.	 J. K. J.	-
Wettable Rinse	O.V.	 J. K. J.	-



**TRANSASIA BIOMEDICALS LIMITED**  
**OPERATIONAL QUALIFICATION CHECKLIST**



Instrument Name **Clinical Chemistry Analyzer** Instrument ID **2002286**

**>Loading of Reagents:**

Refer the Operator's Manual for the procedures, for the following activities:

	<b>Observation</b>	<b>Verified by (Sign &amp; Date)</b>	<b>Remarks</b>
nt Level Scan, Volume Check & ent Chemistry	OK		-

**OPERATIONAL QUALIFICATION CHECKLIST**

Instrument Name **Clinical Chemistry Analyzer** Instrument ID **2002286**

Calibration:

Refer the Operator's Manual for the procedures, for the following activities:

Instrument	Observation	Verified by (Sign & Date)	Remarks
(Distilled Water)	OK	J. [Signature]	-
Standard (Multical)	OK	J. [Signature]	-


**TRANSASIA BIOMEDICALS LIMITED**  
**OPERATIONAL QUALIFICATION CHECKLIST**

Instrument Name **Clinical Chemistry Analyzer** Instrument ID **2002286**



**INTERLOCKS AND ALARMS CHECK:**

Refer the Operator's Manual for the procedures, for the following activities:

Activity	Observation	Verified by (Sign & Date)	Remarks
Is volume of distilled Water	O.K		-
Is volume of Wash solution	O.K		-
Is volume of Bio-hazard waste	O.K		-
Is volume of normal / General waste	O.K		-


**TRANSASIA BIOMEDICALS LIMITED**  
**OPERATIONAL QUALIFICATION CHECKLIST**

**Instrument Name** | **Clinical Chemistry Analyzer** | **Instrument ID** | **2002286**



**SAFETY / SECURITY CHECKS:**

Refer the Operator's Manual for the procedures, for the following activities:

Item	Observation	Verified by (Sign & Date)	Remarks
Word Check for Parameters	O.K	} 	-
Word Check for QC	O.K	}	-

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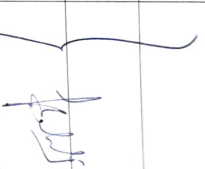
**OPERATIONAL QUALIFICATION CHECKLIST**



Instrument Name **Chemical Chemistry Analyzer** Instrument ID **2002286**

**0 INSTRUMENT SHUT-DOWN:**

Refer the Operator's Manual for the procedures, for the following activities:

Action	Observation	Verified by (Sign & Date)	Remarks
Sample Probe Wash	O.K.		-
Maintenance & Shut down	O.K.		-
Switch OFF the computer.	O.K.		-
Switch OFF the side switch of the analyzer.	O.K.		-
Switch OFF the rear switch of the analyzer.	O.K.		-

**TRANSASIA BIOMEDICALS LIMITED**  
**PERFORMANCE QUALIFICATION**



Instrument Name    Clinical Chemistry Analyzer    Instrument ID    2002286

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TRANSASIA BIOMEDICALS LIMITED  
PERFORMANCE QUALIFICATION  
Clinical Chemistry Analyzer

Instrument ID 2002286


TRANSASIA  
BIO MEDICALS LTD

RE APPROVAL


1 Prepared By

Name	Designation	Signature	Date
Mr. Siddharth Pancholi	Sr. Application Specialist		29/03/22

2 Checked By

Name	Designation	Signature	Date
Dr. Gayatri Desai	Lab Incharge		29/03/22
Mr. Rajendra Kachhia	Lab Tech.		29/03/22

Approved By

Name	Designation	Signature	Date
Dr. Gayatri Desai	Lab Incharge		29/03/22

**2.0 OBJECTIVE**

The objective of this protocol is to establish documented evidence for the Performance Qualification of EM 200 (Bio-Chemistry Random Analyzer) and to ensure that the results obtained are within the pre-determined Acceptance Criteria.

**3.0 SCOPE**



The Scope of this protocol is applicable to EM 200 (Bio-Chemistry Random Analyzer).

**4.0 PRE-REQUISITES:**

Following Pre-requisites are required before the execution of Performance Qualification.

- Completion of Installation Qualification prior to PQ.
- Completion of Operational Qualification prior to PQ.

**5.0 EXECUTION TEAM**

Name	Department	Designation	Signature
Dr. Gayatri Desai	Laboratory	Lab Incharge	
Mr. Rajendra Kachhia	Laboratory	Lab Tech.	

6.0 TEST PLAN

The following tests shall be followed, during the Performance Qualification of EM-200 (Bio-Chemistry Random Analyzer).

Test Parameter	Acceptance Criteria	Test Procedure / Reference
Albumin	< 5%	5 Replicates/ Manufacture Reference
Alkline Phosphatase	< 5%	5 Replicates/ Manufacture Reference
Bilirubin Direct	< 5%	5 Replicates/ Manufacture Reference
Bilirubin Total	< 5%	5 Replicates/ Manufacture Reference
Cholesterol	< 5%	5 Replicates/ Manufacture Reference
Createnine Enzymatic	< 5%	5 Replicates/ Manufacture Reference
Glucose	< 5%	5 Replicates/ Manufacture Reference
HDL Cholesterol	< 5%	5 Replicates/ Manufacture Reference
SGPT	< 5%	5 Replicates/ Manufacture Reference
Total Protein	< 5%	5 Replicates/ Manufacture Reference
Triglyceride	< 5%	5 Replicates/ Manufacture Reference
Uric Acid	< 5%	5 Replicates/ Manufacture Reference
Urea	< 5%	5 Replicates/ Manufacture Reference

TRANSASIA BIOMEDICALS LIMITED

PERFORMANCE QUALIFICATION

TRANSASIA<sup>®</sup>  
Bio-Medicals Ltd

Instrument Name

Clinical Chemistry Analyzer

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2002286

7.0

### EXECUTION OF TEST PLAN

To be check out all parameters are within acceptable CV %.

viewed by:

Name	Signature	Date
Mr. Rajendra Kachhia		29/03/22

**TRANSASIA BIOMEDICALS LIMITED**

**PERFORMANCE QUALIFICATION**

Instrument Name

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2002286

**TRANSASIA**

Bi-Medical


**DEFICIENCIES / DEVIATIONS:**

No deviation found during precision check. All parameters are within accepted CV%  
Row data attached.

No Deficiencies found during accuracy. All parameters are within acceptable  
manufacturer reference range.

Row data attached.

Reviewed by:

Name	Signature	Date
Mr. Rajendra Kachhia		29/03/22

**TRANSASIA BIOMEDICALS LIMITED**

**PERFORMANCE QUALIFICATION**

**Instrument Name**

**Clinical Chemistry Analyzer**

**Instrument ID**


**2002286**

**TRANSASIA**  
Bio-Medicals Ltd

**SUMMARY AND EVALUATION:**

Precision and accuracy of instrument is ok.

Reviewed by:

Name	Signature	Date
Mr. Rajendra Kachhia		29/03/22

**TRANSASIA BIOMEDICALS LIMITED**  
**PERFORMANCE QUALIFICATION**

**Instrument Name**

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**0.0 ABBREVIATIONS**

<b>SOP</b>	Standard Operating Procedure
<b>MOC</b>	Material of Construction
<b>PQ</b>	Performance Qualification



TRANSASIA BIOMEDICALS LIMITED

PERFORMANCE QUALIFICATION

Instrument Name

Clinical Chemistry Analyzer

Instrument ID

2002286



POST APPROVAL

11.1 Checked by

Name	Designation	Signature	Date
Mr. Siddharth Pancholi	Sr. Application Specialist		29/03/22

11.2 Approved by

Name	Designation	Signature	Date
 Dr. Priyanka Desai	Lab Incharge		29/03/22

Note: This report is effective from the date of approval.