



## STANDARD OPERATING PROCEDURE

**Department:** Microbiology

**SOP No.:**

**Title:** Operation, Calibration and Performance Verification of Heating Block

**Effective Date:**

**Supersedes:** Nil

**Review Date:**

**Issue Date:**

**Page No.:**

### 1.0 Objective

To lay down the procedure for operation, calibration and performance verification of Heating Block.

### 2.0 Scope

This Standard Operating Procedure is applicable for Quality Control Department of Microbiology.

### 3.0 Responsibility

Executive/Sr. Executive-QC : Shall be responsible for operation, calibration and performance verification of Heating Block

Head-QC/Designee : Shall be responsible for the compliance of this SOP.

### 4.0 Abbreviations and Definitions

SOP : Standard Operating Procedure

QC : Quality Control

°C : Degree Centigrade

### 5.0 Procedure

#### 5.1 Cleaning Procedure

5.1.1 Ensure that the power supply to the heating block is switched 'OFF'.


5.1.2 De-dust the heating block daily externally with a clean dry lint free cloth.

#### 5.2 Operating Procedure

5.2.1 Ensure that the heating block is properly connected to the power supply.

5.2.2 Switch 'ON' the main switch and then the cabinet switch.

5.2.3 Set the heater capacity knob at 37° C

5.2.4 Set the temperature to 37° C by pressing  followed by up/down to adjust the temperature as per requirement.

5.2.5 If the temperature display is not glowing, check for power supply and proper electrical connections of instruments with power point.



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5.2.6 Report any discrepancy observed during operation or temperature monitoring to HOD and notify the defect to Maintenance Department.

### 5.3 Calibration of temperature controller

5.3.1 To be carried out by external party.

5.3.2 **Frequency:** Once in six month and after every major maintenance work.

### 5.4 Performance verification

#### 5.4.1 Temperature distribution study at 37.0°C

5.4.1.3 Place 8 calibrated temperature probes in the heating block as shown in annexure-1. Connect these probes to a data logger.

5.4.1.4 Ensure that the calibration of data logger and its probes is within the validity period.

5.4.1.5 Set the temperature at the temperature controller to 37.0°C.

5.4.1.6 Allow the set temperature to attain. Once set temperature is attained at display, carry out temperature recording with data logger at an interval of 5 minutes up to 4 hrs.

#### 5.4.2 Acceptance criteria

5.4.2.1 During temperature distribution monitoring temperature at various location shall be within  $\pm 1.0^\circ\text{C}$  of the set temperature.

5.4.2.2 The variation in temperature from one location to another shall be within  $\pm 1.0^\circ\text{C}$ . Record the observation as per Annexure-2.

#### 5.4.3 Frequency of performance verification

5.4.3.1 Once in three months and after every major maintenance job.

### 6.0 Forms and Records

6.1	Description of Sensor locations	:	Annexure-1
6.2	Performance Verification Report	:	Annexure-2
6.3	Heating Block Uses Log Book	:	Annexure-3

### 7.0 Reference

Nil



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MICROBIOLOGY DEPARTMENT

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<b>Issue Date:</b>	<b>Page No.:</b>

### 8.0 Distribution

- 8.1 Master Copy : Documentation Cell (Quality Assurance)  
8.2 Controlled Copies : Quality Control, Quality Assurance

### 9.0 History

Date	Revision Number	Reason for Revision
	00	New SOP



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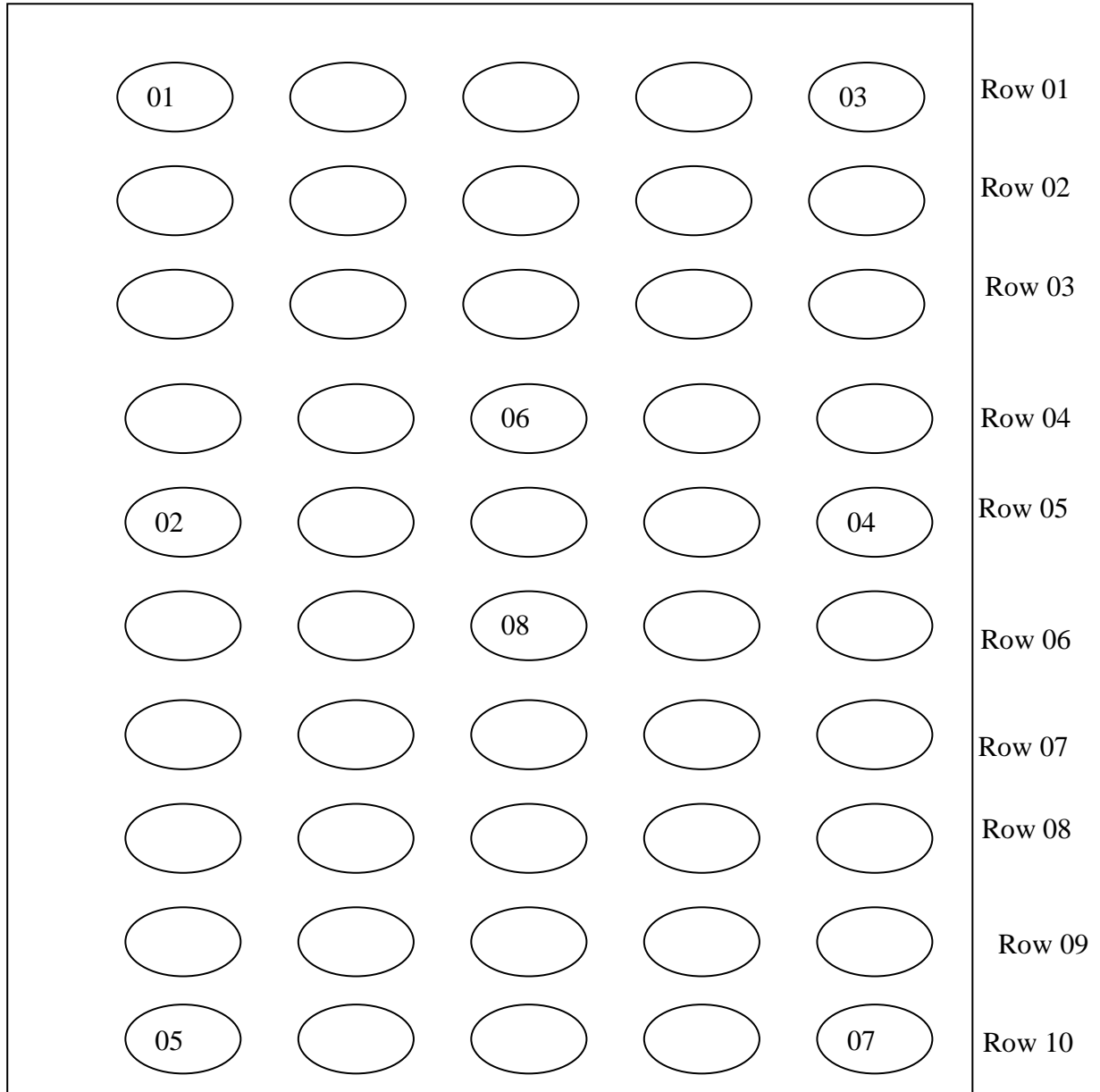
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<b>Issue Date:</b>	<b>Page No.:</b>

### ANNEXURE I

#### DESCRIPTION OF SENSOR LOCATIONS

Location Nos.	Location	Location Nos.	Location
Location 1	Right side corner of row 1	Location 5	Right side corner of row 10
Location 2	Right side corner of row 5	Location 6	Middle of row 4
Location 3	Left side corner or row 1	Location 7	Left side corner of row 10
Location 4	Left side corner of row 5	Location 8	Middle of row 6





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<b>Issue Date:</b>	<b>Page No.:</b>

### ANNEXURE II

#### 1.0 PERFORMANCE VERIFICATION REPORT

##### 1.1 DETAILS OF EQUIPMENT UNDER PERFORMANCE VERIFICATION:

1.1.1 **Equipment:** -----

1.1.2 **Equipment code no. :** -----

1.1.3 **Location:** -----

##### 1.2 DETAILS OF EQUIPMENT USED FOR VALIDATION STUDY:

###### 1.2.1 Serial number and location of temperature probes used:

Location 1:	Location 2:
Location 3:	Location 4:
Location 5:	Location 6:
Location 7:	Location 8:

#### 2.0 TEMPERATURE DISTRIBUTION STUDY

**SET TEMPERATURE: 37.0 °C**

S.No.	Probe numbers	Minimum Temperature (°C)	Maximum Temperature (°C)	Acceptance criteria
1.				<b>Minimum Temperature = 36.0°C</b> <b>Maximum Temperature = 38.0°C</b>
2.				
3.				
4.				
5.				
6.				
7.				
8.				



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<b>Issue Date:</b>	<b>Page No.:</b>

### 3.0 SUMMARY:

### 4.0 CONCLUSION:

**Performed by**

**Checked by**

**Date:**

**Date:**

