

## Form B03

## Scheduled Maintenance Work Order



Quantum Medical Solutions sdn bhd  
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Format Ref: - QMS/TSD-022 Rev.01

|                 |   |  |                              |
|-----------------|---|--|------------------------------|
| Work Order No.  | PWO366073   | Schedule Month   | July 2018                    |
| Work Order Date | 01/07/2018  | Completed Date   | 10/7/2018                    |
| Clinic Name     | Klinik Kesihatan Sungai Rengit                                  | Clinic Code  | JHR047                       |
| BE No.          | JHR008651   | Distict  | KOTA TINGGI                  |
| BE Category     | Warming Units, Patient, Radiant, In                             | WO Assigned to   | ktg bme3                     |
| Ownership       | <input checked="" type="checkbox"/> Existing Equipment          | <input type="checkbox"/> Purchase                      | <input type="checkbox"/> New |
| BE Condition    | <input checked="" type="checkbox"/> Active                      | <input type="checkbox"/> BER Proposed                  |                              |
| Work Order Type | <input checked="" type="checkbox"/> Preventive Maintenance (PM) | <input type="checkbox"/> Third Party Calibration (TPC) |                              |
|                 | <input type="checkbox"/> Routine Inspection (RI)                | <input type="checkbox"/> Statutory Certification (SC)  |                              |

|                 |    |
|-----------------|----|
| Reschedule Date | NA |
|-----------------|----|

|   |     |                        |     |
|---|-----|------------------------|-----|
| <b>BE Third Party Calibration / Statutory Certification Details</b>   |     |                        |     |
| Company Name  | N/A | Cal / Cert Date        | N/A |
| Contact Number  | N/A | Cal / Cert Expiry Date | N/A |
| <b>Action Taken</b>   |     |                        |     |
| <input checked="" type="checkbox"/> PM / RT job done as per checklist. Unit tested functioning good & ready to use. |     | Manufacturer : -       |     |
| <input type="checkbox"/> Corrective Maintenance / <input type="checkbox"/> Breakdown                                |     | Model : -              |     |
| BE Sticker Availability : <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> NA                     |     | Serial No : -          |     |
| Remarks:  |     |                        |     |


| <b>Schedule Maintenance Execution Details</b> |                                |           |            |          |
|---|--------------------------------|-----------|------------|----------|
| SI No   | QMS Engineer / Technician Name | Date      | Start Time | End Time |
| MA  | SAFWAN                         | 10/7/2018 | 1400       | 1430     |
|   |                                |           |            |          |
|   |                                |           |            |          |
|   |                                |           |            |          |

|                  |    |
|------------------|----|
| Customer Remarks | NA |
|------------------|----|

|                                   |                         |
|-----------------------------------|-------------------------|
| Engineer / Technician Signature   | Customer Signature      |
| Name                              | Name                    |
| Date                              | Designation             |
| MOHAMAD SAFWAN BIN ROSLAN         | NORHASTHAH LINTI BAHRUN |
| Biomedical Technician             | Jururawat Kesihatan U29 |
| Quantum Medical Solution Sdn. Bhd | KK Sungai Rengit        |
| 10/7/18                           | 10/7/18                 |
|                                   | Seal                    |

For Internal Use  
**MUHD RAMADHAN MUHAMMAD**  
 Biomedical Engineer  
 Technical Service Department  
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Final Verification  
 QMS State Incharge

|  <b>KEMENTERIAN KESIHATAN MALAYSIA</b><br>MEET Planned Preventive Maintenance Checklist<br>Warming Units, Patient, Radiant, Infant, Mobile<br>BE CODE 17-433  |                          | CHECKLIST NO: EL-168-000<br>REV.000 |           |   |      |      |     |
|--|--------------------------|-------------------------------------|-----------|---|------|------|-----|
| <b>PART 1 ASSET DETAILS</b>  |                          |                                     |           |   |      |      |     |
| WORK ORDER NO ▶ <b>PW0366073</b>   | BE NO ▶ <b>JHR008651</b> |                                     |           |   |      |      |     |
| MANUFACTURER ▶ <b>-</b>  | MODEL ▶ <b>-</b>         |                                     |           |   |      |      |     |
| FREQUENCY ▶ <b>6 MONTHLY ( ) 12 MONTHLY (✓)</b>  | PPM HOURS ▶ <b>1.00</b>  |                                     |           |   |      |      |     |
| <b>PART 2 SPECIAL PRECAUTION</b>   |                          |                                     |           |   |      |      |     |
| If there is evidence of body fluid contamination, submit the device for cleaning and decontamination before inspecting it.<br>Wear appropriate Personnel Protection Equipment (PPE) during work.<br>Wear grounded electrostatic wristband when handling PCB or electronic components.<br>Refer to the safety procedure for additional precautions and guidance as per manufacturer guidelines.<br>Make sure the test equipment used are duly calibrated. |                          |                                     |           |   |      |      |     |
| <b>PART 3 TEST APPARATUS</b>   |                          |                                     |           |   |      |      |     |
| Tick (✓) where appropriate   |                          |                                     |           |   |      |      |     |
| NO   | ASSET NO                 | DESCRIPTION                         | SERIAL NO | CALIBRATION DUE ON  |      |      |     |
| 1  | TESA 0010                | ELECTRICAL SAFETY ANALYZER          | 3218071   | 24/8/18   |      |      |     |
| 2  | TESA 0142                | THERMOMETER                         | 150423958 | 10/11/18  |      |      |     |
|  |                          |                                     |           |   |      |      |     |
|  |                          |                                     |           |   |      |      |     |
| <b>PART 4 QUALITATIVE TASKS</b>  |                          |                                     |           |   |      |      |     |
| Tick (✓) where appropriate   |                          |                                     |           |   |      |      |     |
|  | PASS                     | FAIL                                | NA        |   | PASS | FAIL | NA  |
| 1 Chassis - verify physical integrity, cleanliness and condition   | (✓)                      | ( )                                 | ( )       | 13 Test button - verify proper operation  | (✓)  | ( )  | ( ) |
| 2 Mount/ Fasteners - verify physical integrity   | (✓)                      | ( )                                 | ( )       | 14 Power failure test - verify proper operation   | (✓)  | ( )  | ( ) |
| 3 Casters/Brakes - verify physical integrity   | (✓)                      | ( )                                 | ( )       | 15 Verify functionality of alarms   | ( )  | ( )  | ( ) |
| 4 Power Cord - verify proper insulation and integrity  | (✓)                      | ( )                                 | ( )       | a. Probe Failure Alarm  | ( )  | ( )  | (✓) |
| 5 Strain Relief - verify physical integrity at both ends of line cord  | (✓)                      | ( )                                 | ( )       | b. Patient Temp. Alarm  | ( )  | ( )  | (✓) |
| 6 Circuit Breaker/ Fuse - verify integrity of external circuit breaker and/or rating of external fuse  | (✓)                      | ( )                                 | ( )       | c. System Failure Alarm   | (✓)  | ( )  | ( ) |
| 7 Fittings/ Connectors - check all fittings/connectors   | (✓)                      | ( )                                 | ( )       | d. Power Failure Alarm  | (✓)  | ( )  | ( ) |
| 8 Controls/Switches - verify proper operation of controls  | (✓)                      | ( )                                 | ( )       | e. Heat Off Alarm   | (✓)  | ( )  | ( ) |
| 9 Indicators/ Displays - verify proper illumination and operation  | ( )                      | ( )                                 | (✓)       | f. Check Patient Alarm  | ( )  | ( )  | (✓) |
| 10 Temperature Probe - verify functionality  | ( )                      | ( )                                 | (✓)       |   |      |      |     |
| 11 Heater - verify functionality   | (✓)                      | ( )                                 | ( )       |   |      |      |     |
| 12 Keypad - verify operation and condition   | ( )                      | ( )                                 | (✓)       |   |      |      |     |
| <b>PART 5 PREVENTIVE MAINTENANCE TASKS</b>   |                          |                                     |           |   |      |      |     |
| Tick (✓) where appropriate   |                          |                                     |           |   |      |      |     |
|  | DONE                     | NOT DONE **                         | NA        |   |      |      |     |
| 1 Clean the exterior and interior of the equipment   | (✓)                      | ( )                                 | ( )       | Notes:<br><br>* For all Parts, NA is defined as NOT APPLICABLE<br>** If you have ticked 'NOT DONE', then justify in Part 8<br>*** Choose Whichever Applicable |      |      |     |
| 2 Lamp - check / replace *** (Replace every 2 years)   | ( )                      | (✓)                                 | ( )       |   |      |      |     |
| 3 Battery - check / replace *** (Replace every 3 years)  | ( )                      | (✓)                                 | ( )       |   |      |      |     |



# KEMENTERIAN KESIHATAN MALAYSIA

MEET Planned Preventive Maintenance Checklist  
Warming Units, Patient, Radiant, Infant, Mobile  
BE CODE 17-433

CHECKLIST NO. CL-166-000  
REV.000

WORK ORDER NO ▶ 040366073

## PART 6 QUANTITATIVE TASKS

Tick (✓) where appropriate

| No | Description                                   | Units / UOM | Set Values | Measured Values | Limit/Tolerance | PASS | FAIL | NA |
|----|---|-------------|------------|-----------------|-----------------|------|------|----|
| 1  | Temperature at 64 - 74 cm height, 100% power. | °C          |            | 36.4            | 35-37.5         | ✓    |      |    |
|    |   |             |            |                 |                 |      |      |    |
|    |   |             |            |                 |                 |      |      |    |

## PART 7 ELECTRICAL SAFETY TEST

ELECTRICAL SAFETY TEST, (attach report)

Tick (✓) where appropriate

Standard use

☒ IEC 60601

☐ IEC 61010

☐ IEC 62353

Result

☐ PASS

☐ FAIL

☒ NA

## PART 8 NOTES

NA



CORRECTIVE MAINTENANCE REQUIRED



FUNCTIONING



NOT FUNCTIONING

WORK ORDER NO ▶

NA

NEXT PPM DATE ▶

July 20/9

PPM has been performed in accordance to the checklist and the equipment is functioning to the intended purpose.

COMPLETED BY:

MOHAMAD SAFWAN BIN ROSLAN  
Biomedical Technician

DATE: 10/7/19  
Quantum Medical Solution Sdn. Bhd



## Test Setup

Operator ID :  
 Calibration Tech : MOHANA  
 Calibration Date : 08/24/2018  
 Firmware Version : 2.08.01  
 Serial Number : 3218071  
 Date & Time : 07/10/2018 & 02:35PM  
 JOB Name :

## DUT Information

Equipment Number : JHR008651  
 Serial Number :  
 Manufacturer :  
 Model :  
 Location : KK SUNGAI RENGIT  
 Other :

## Template Information

Template Name : WARMING  
 Pause after Power ON NO  
 Power ON delay: 2  
 Test Speed: NORMAL  
 Halt on Test Failure: YES  
 Include Time: YES  
 Insulation Resistance \ 500V  
 Multi Enclosure Test : NO

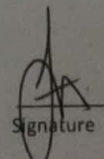
Standard : IEC62353-Alternate  
 Pause before Power O NO  
 Power OFF delay: 0  
 Test Mode: AUTO  
 Multi PE Test: NO  
 Multi Resstore: WORST/LAST  
 Reverse Polarity: YES  
 Classification: I

## PLC Configuration-Applied part setup

AP Name AP Type AP Num

## ESA615 Test Results

| Test Name                                   | Value     | High Limits | Low Limits | Status |
|---|-----------|-------------|------------|--------|
| Protective Earth Resistance                 | 0.004 Ohm | 0.2 -       |            | P      |
| Insulation Resistance                       |           |             |            | P      |
| Mains to Protective Earth                   | 999 MOhm  | -           |            | P      |
| Mains to Non-Earth Accessible Conductive Pa | 999 MOhm  | -           |            | P      |
| Mains Voltage                               |           |             |            | P      |
| Live to Neutral                             | 242.8 V   | -           |            | P      |
| Neutral to Earth                            | 1.1 V     | -           |            | P      |
| Live to Earth                               | 242.1 V   | -           |            | P      |
| Equipment Current                           | 0.1 A     | -           |            | P      |
| Earth Leakage Current                       |           |             |            | P      |
| Normal Condition                            | 550 uA-OF | 5000 -      |            | P      |
| Open Neutral                                | 840 uA-OF | 10000 -     |            | P      |
| Open Neutral- Reversed Mains                | 841 uA-OF | 10000 -     |            | P      |
| Normal Condition- Reversed Mains            | 535 uA-OF | 5000 -      |            | P      |
| Enclosure Leakage Current                   |           |             |            | P      |
| Normal Condition                            | 0.8 uA-OP | 100 -       |            | P      |
| Open Earth                                  | 1.0 uA-OP | 500 -       |            | P      |
| Open Neutral                                | 1.0 uA-OP | 500 -       |            | P      |
| Open Neutral- Reversed Mains                | 1.0 uA-OP | 500 -       |            | P      |
| Normal Condition- Reversed Mains            | 0.8 uA-OP | 100 -       |            | P      |
| Open Earth- Reversed Mains                  | 0.9 uA-OP | 500 -       |            | P      |

  
 Signature