

Form B03

## Scheduled Maintenance Work Order

Quantum Medical Solutions sdn bhd  
transcending boundaries, transforming life

Format Ref - QMS/TSD-022 Rev 01

Work Order No.	PWO365263	Schedule Month	June 2018
Work Order Date	01/06/2018	Completed Date	25.6.18.
Clinic Name	Klinik Kesihatan Lok Heng	Clinic Code	JHR044
BE No.	JHR011979	District	KOTA TINGGI
BE Category	ANALYZERS, LABORATORY, HEM	WO Assigned to	FTG BME I
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	N/A
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## E Third Party Calibration / Statutory Certification Details

Company Name		Cal / Cert Date	
Contact Number		Cal / Cert Expiry Date	
Action Taken			
<input checked="" type="checkbox"/> PM / RI job done as per checklist. Unit tested functioning good & ready to use. <input type="checkbox"/> Corrective Maintenance / <input type="checkbox"/> Breakdown BE Sticker Availability : <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> NA Remarks: N/A		Manufacturer : Nikon koden Model : 6318K Serial No : 03225.	

## Schedule Maintenance Execution Details

SI No	QMS Engineer / Technician Name	Date	Start Time	End Time
N/A	Stalwanz	25.6.18.	1030	1130

## Customer Remarks

N/A

Engineer / Technician Signature	Customer Signature
Name	Name
Date	Designation
	Date
	Seal

NOORSHALWANA BINTI LATIP  
 Biomedical Engineer  
 Quantum Medical Solutions Sdn. Bhd.  
 012-3962428

AZURA BINTI SULONG  
 JURURAWAT KLINIK ARAKAT U19  
 KLINIK KESIHATAN LOK HENG  
 25/6/18.

For Internal Use

MUHD RAMADHAN B. YAMAR JAYA  
 Biomedical Engineer  
 Technical Service Department  
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First Verification  
 QMS Circle Incharge

Final Verification  
 QMS State Incharge



# KEMENTERIAN KESIHATAN MALAYSIA

MEET Planned Preventive Maintenance Checklist  
Analyzers, Laboratory, Hematology, Cell Counting, Automated ( Medium)  
BE CODE ME-009

CHECKLIST NO: CL-015-000  
REV.000

## PART 1 ASSET DETAILS

WORK ORDER NO ▶ DW0865263  
MANUFACTURER ▶ Nihon Kohden  
FREQUENCY ▶ 6 MONTHLY ( ) 12 MONTHLY ( )  
BE NO ▶ JHR 011979  
MODEL ▶ 638K.  
PPM HOURS ▶ 2.00

## PART 2 SPECIAL PRECAUTION

If there is evidence of body fluid contamination, submit the device for cleaning and decontamination before inspecting it.  
Wear appropriate Personnel Protection Equipment (PPE) during work.  
Wear grounded electrostatic wristband when handling PCB or electronic components.  
Refer to the safety procedure for additional precautions and guidance as per manufacturer guidelines.  
Make sure the test equipment used are duly calibrated.

## PART 3 TEST APPARATUS

Tick (✓) where appropriate

NO	ASSET NO	DESCRIPTION	SERIAL NO	CALIBRATION DUE ON
1.	TEESA0010	ELECTRICAL SAFETY ANALYZER	3218171	11/8/18

## PART 4 QUALITATIVE TASKS

Tick (✓) where appropriate

	PASS	FAIL	NA		PASS	FAIL	NA
1 Chassis - verify physical integrity, cleanliness and condition	( / )	( )	( )	11 Probes- Verify physical integrity	( / )	( )	( )
2 Mount/ Fasteners - verify physical integrity	( / )	( )	( )	12 Temperature system- verify proper operation	( )	( )	( / )
3 Power Cord - verify proper insulation and integrity	( / )	( )	( )	13 Fan/motor/compressor/pump- verify physical integrity and proper operation	( / )	( )	( )
4 Strain Relief - verify physical integrity at both ends of line cord	( / )	( )	( )	14 Initialization Process- Verify	( / )	( )	( )
5 Fittings/ Connectors - check all fittings/connectors	( / )	( )	( )	15 Printer - Verify physical operation.	( / )	( )	( )
6 Controls/Switches - verify proper operation of controls	( / )	( )	( )	16 User Setting - Verify Operation	( / )	( )	( )
7 Indicators/Displays- verify proper operation	( / )	( )	( )	17 User calibration - Verify Operation	( / )	( )	( )
8 Electrodes and Transducer -verify physical integrity	( / )	( )	( )	18 Self Diagnostic - Verify Operation	( / )	( )	( )
9 Hydraulics and Pneumatics System-verify physical integrity	( / )	( )	( )	19 Plate movement calibration - Verify Operation	( / )	( )	( )
10 Sensors- verify physical integrity	( / )	( )	( )				

## PART 5 PREVENTIVE MAINTENANCE TASKS

Tick (✓) where appropriate

	DONE	NOT DONE **	NA		DONE	NOT DONE **	NA
1 Clean exterior and interior of the equipment	( / )	( )	( )	6 Clean measuring area	( / )	( )	( )
2 Inspect/clean interior of unit	( / )	( )	( )	7 Calibrate system parameter	( )	( )	( / )
3 Clean hydraulics and pneumatic system	( / )	( )	( )	8 Perform Post routine	( / )	( )	( )
4 Tubings - clean/ replace ***	( / )	( )	( )				
5 Clean sampling mechanism	( / )	( )	( )				

Notes:

- \* For all Parts, NA is defined as NOT APPLICABLE
- \*\* If you have ticked 'NOT DONE', then justify in Part 8
- \*\*\* Choose Whichever Applicable



WORK ORDER NO ▶

PNO365243

## PART 6 QUANTITATIVE TASKS

Tick (  $\checkmark$  ) where appropriate

[illegible]

## 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

7

NOT FUNCTIONING

WORK ORDER NO ▶

NEXT PPM DATE ▶ 6/2019

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

**COMPLETED BY:**

Am -

NOORSHALWANA BINTI LATIP

**Biomedical Engineer**

Quantum Medical Solutions Sdn. Bhd.

DATE :

25.06.18.

012-396

## Test Setup

Operator ID :  
 Calibration Tech : MOHANA  
 Calibration Date : 08/24/2018  
 Firmware Version : 2.08.01  
 Serial Number : 3218071  
 Date & Time : 06/25/2018&10.30AM  
 JOB Name :

## DUT Information

Equipment Number : JHR011979  
 Serial Number :  
 Manufacturer :  
 Model :  
 Location : KK LOK HENG  
 Other :

## Template Information

Template Name : ANALYZER  
 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 : IEC60601-1-3rd Ed  
 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	0.065 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	228.4 V -	-		P
Neutral to Earth	6.4 V -	-		P
Live to Earth	233.6 V -	-		P
Equipment Current	0.0 A -	-		P
Earth Leakage Current				P
Normal Condition	16.2 uA-OI	5000 -		P
Open Neutral	24.4 uA-OI	10000 -		P
Open Neutral- Reversed Mains	33.9 uA-OI	10000 -		P
Normal Condition- Reversed Mains	27.5 uA-OI	5000 -		P
Enclosure Leakage Current				P
Normal Condition	0.7 uA-OPI	100 -		P
Open Earth	0.8 uA-OPI	500 -		P
Open Neutral	0.8 uA-OPI	500 -		P
Open Neutral- Reversed Mains	0.7 uA-OPI	500 -		P
Normal Condition- Reversed Mains	0.6 uA-OPI	100 -		P
Open Earth- Reversed Mains	0.8 uA-OPI	500 -		P

  
 Signature