

## 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.	PWO365363	Schedule Month	June 2018
Work Order Date	01/06/2018	Completed Date	4/7/18
Clinic Name	Klinik Kesihatan Batu Pahat	Clinic Code	JHR003
BE No.	JHR003032	Distict	BATU PAHAT
BE Category	ANALYZERS, LABORATORY, HEM	WO Assigned to	Farhan
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	
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<b>BE Third Party Calibration / Statutory Certification Details</b>			
Company Name	ma	Cal / Cert Date	ma
Contact Number		Cal / Cert Expiry Date	
<b>Action Taken</b>			
<input checked="" type="checkbox"/> PM / RI job done as per checklist. Unit tested functioning good & ready to use.		Manufacturer: Syner	
<input type="checkbox"/> Corrective Maintenance / <input type="checkbox"/> Breakdown		Modal: XP-100	
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
	Farhan	4/7/18	1200	1400

Customer Remarks
NA

<b>Engineer / Technician Signature</b> Name: MOHD NAJIB FARHAN B. ISMAIL Date: 4/2/18 BIOMEDICAL ENGINEER (012-396 7048) QUANTUM MEDICAL SOLUTIONS SDN. BHD.		<b>Customer Signature</b> Name: AFIZA BINTI ABD. AZIZ Designation: Juruteknologi Makmal Perubatan US2 (KUP) Date: 4/7/18 Seal: Klinik Kesihatan Batu Pahat	
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For Internal Use

Quantum Medical Solutions  
RAZILA BINTI MISKAL  
BIOMEDICAL ENGINEER

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 ▶ PWO 365363 BE NO ▶ JH4003032  
MANUFACTURER ▶ Synerex MODEL ▶ XP-10  
FREQUENCY ▶ 6 MONTHLY ( / ) 12 MONTHLY ( ) 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
	TEESAD0074	ELECTRICAL SAFETY ANALYZER	3226906	9/10/18

## 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 ***	( ✓ )	( )	( )	Notes:			
5 Clean sampling mechanism	( ✓ )	( )	( )	* For all Parts, NA is defined as NOT APPLICABLE			
				** If you have ticked 'NOT DONE', then justify in Part 8			
				*** Choose Whichever Applicable			



# 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

WORK ORDER NO ▶

## PART 6 QUANTITATIVE TASKS

Tick (✓) where appropriate

No	Description	Units / UOM	Set Values	Measured Values	Limit/Tolerance	PASS	FAIL	NA

## 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

☐

CORRECTIVE MAINTENANCE REQUIRED

☒

FUNCTIONING

☐

NOT FUNCTIONING

WORK ORDER NO ▶

NEXT PPM DATE ▶ Dec 18

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

COMPLETED BY:

DATE :

Farhan  
21/1/18



## Test Setup

Operator ID :  
 Calibration Tech : DINA  
 Calibration Date : 9/10/2017  
 Firmware Version : 2.08.01  
 Serial Number : 3226906  
 Date & Time : 07/04/2018 & 13:51  
 JOB Name :

## DUT Information

Equipment Number : JHR003032  
 Serial Number :  
 Manufacturer : SYSMEX  
 Model : XP-100  
 Location : KK BP  
 Other :

## Template Information

Template Name : JHR003032  
 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 : IEC60601-1-2nd 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	0.100 Ohm	0.2 -		P
Insulation Resistance				P
Mains to Protective Earth	999 MOhm	-		P
Mains to Non-Earth Accessible Conductive Par	999 MOhm	-		P
Mains Voltage				P
Live to Neutral	236.0 V	-	-	P
Neutral to Earth	2.1 V	-	-	P
Live to Earth	236.0 V	-	-	P
Equipment Current	0.0 A	-	-	P
Earth Leakage Current				P
Normal Condition	14.2 uA-OI	500 -		P
Open Neutral	20.5 uA-OI	1000 -		P
Open Neutral- Reversed Mains	21.1 uA-OI	1000 -		P
Normal Condition- Reversed Mains	14.8 uA-OI	500 -		P



## Enclosure Leakage Current

Normal Condition	0.1 $\mu$ A-OPI	100 -	P
Open Earth	14.3 $\mu$ A-OI	500 -	P
Open Neutral	0.1 $\mu$ A-OPI	500 -	P
Open Neutral- Reversed Mains	0.1 $\mu$ A-OPI	500 -	P
Normal Condition- Reversed Mains	0.7 $\mu$ A-OPI	100 -	P
Open Earth- Reversed Mains	0.8 $\mu$ A-OPI	500 -	P

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Signature

