



Scheduled Maintenance Work Order

Work Order No	n/a PWO 465013	Scheduled Month	January 2019
Work Order Date	n/a 01/01/2019	Completed Date	30/1/2019
Clinic Name	K.K RISHI TIMOTH	Clinic Code	PRK027
BE No	PRK014576	District	KINTA
BE Category	Hematology Analyzer (M)	WO Assigned to	NEER ADARU
Ownership	<input checked="" type="checkbox"/> Existing Equipment	<input type="checkbox"/> MEET Equipment	
BE Condition	<input type="checkbox"/> Under Warranty	<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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BE Third Party Calibration / Statutory Certification Details

Company Name	n/a	Cal / Cert Date	n/a
Contact Number	n/a	Cal / Cert Expiry Date	n/a

Action Taken

PM completed as per checklist. Manufacturer: SYSMEX
 Model: EX31N
 S/N: B0841
 Purchase Date: 18/10/2011
 Kewpa No: KKM/JKN/PEK/PRK/08-03-12/14/11/18

Schedule Maintenance Execution Details

SI No	QMS Engineer / Technician Name	Date	Start Time	End Time
1	ADARU	30/1/2019	8:30	10:30

Customer Remarks

Engineer / Technician Signature Name NOOR AZARU B AHMAD PERAK LAB SPECIALIST Quantum Medical Solution Sdn. Bhd No 10 B, Persiaran Greentown 4c Greentown Avenue, 30450 Ipoh, Perak Tel/fax : 05-2461991 Hp : 012-39648013 Date 30/1/2019	Customer Signature Name Designation Date Seal MUR SUDHADA 30/1/19
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For Internal Use only

First Verification
QMS Circle InchargeFinal 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-015-003
REV.000

PART 1 ASSET DETAILS

WORK ORDER NO ▶ *R/o PWO 465013* BE NO ▶ *PRK 014576*
MANUFACTURER ▶ SYSMEX MODEL ▶ *KX21 W*
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
	<i>W/o</i>	ELECTRICAL SAFETY ANALYZER	<i>W/o</i>	

PART 4 QUALITATIVE TASKS

Tick (✓) where appropriate

	PASS	FAIL	NA		PASS	FAIL	NA
1 Chassis - verify physical integrity, cleanliness and condition	(/)	()	()	10 Printer - Verify Operation	(/)	()	()
2 Mount/ Fasteners - verify physical integrity	(/)	()	()	11 Rolling Pump tubing -Verify Physical Integrity	(/)	()	()
3 Cables - verify integrity	(/)	()	()	12 Solenoid Valve- Verify Operation	(/)	()	()
4 AC Plug / Power Cord- verify Proper Insulation and integrity	(/)	()	()	13 Vacuum and Pressure Pump -Verify Physical Integrity	(/)	()	()
5 Strain Relief - verify physical integrity at both ends of line cord	(/)	()	()	a. Vacuum =0.0333mpa (actual) Displaying 0.0320mpa	(/)	()	()
6 Fittings/ Connectors - check all fittings/connectors	(/)	()	()	b. Vacuum =0.05mpa (actual) Displaying 0.051mpa	(/)	()	()
7 Controls/Switches - verify proper operation of controls	(/)	()	()	14 Sample Probe - Verify Integrity	(/)	()	()
8 Indicators /Displays - Verify Proper illumination and Operation	(/)	()	()	15 Controller Board - Verify Physical Integrity	(/)	()	()
9 Plunger & Syringe Motor drive - Verify physical integrity and operation	(/)	()	()				

PART 5 PREVENTIVE MAINTENANCE TASKS

Tick (✓) where appropriate

	DONE	NOT DONE **	NA		DONE	NOT DONE **	NA
1 Inspect / Clean exterior and interior of the equipment	(/)	()	()	8 Run Auto Clean	(/)	()	()
2 Transducer Clean and Verify integrity	(/)	()	()	9 SRV -Clean and Check Condition	(/)	()	()
3 PPM Kits - Replace if needed	(/)	()	()	10 Run daily Shutdown	(/)	()	()
4 Power on Self Test (POST) -Verify Operation	(/)	()	()	11 Sample Aspiration Probe - Clean and Check Condition	(/)	()	()
5 Fan Filter -Clean and replace if needed	(/)	()	()	12 Pinch Valve and Lyse pump tubing - Clean and Replace if Necessary	(/)	()	()
6 Aperture Plates - Clean and Check Condition	(/)	()	()	13 Waste Chamber - Clean and Check Condition	(/)	()	()
7 Diluent Syringe, Sample Syringe, Sample aspiration Probe- Clean and Check Condition	(/)	()	()	14 Close Sample holder - Clean and Check Condition	()	()	(/)

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



KEMENTERIAN KESIHATAN MALAYSIA

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Analyzers, Laboratory, Hematology, Cell Counting, Automated (Medium)
BE CODE : ME-009

CHECKLIST NO: CL-015-003 REV.000

WORK ORDER NO ▶ *n/a* PWO 465013.

PART 6 QUANTITATIVE TASKS

Tick (✓) where appropriate

No	Description	Units / UOM	Set Values	Measured Values	Limit/Tolerance	PASS	FAIL	NA
1	Background Check					(/)	()	()
1.1	WBC	$\times 10^9/\mu\text{L}$	0-0	0-0	≤ 0.3	(/)	()	()
1.2	RBC	$\times 10^6/\mu\text{L}$	0-0	0-0	≤ 0.02	(/)	()	()
1.3	HGB	g/dL	0-0	0-0	≤ 0.1	(/)	()	()
1.4	PLT	$\times 10^9/\mu\text{L}$	0	0	≤ 10	(/)	()	()
2	Pressure/Vacuum Check				0.4-0.6	()	()	(/)
2.1	Pressure 0.5kg/cm ²	kg/cm ²			230-270	()	()	(/)
2.2	Vacuum 250mmHg	mmHg						
3	Run QC Test and attach printout					(/)	()	()
a	High level					(/)	()	()
b	Medium Level					(/)	()	()
c	Low Level					(/)	()	()
4	Run Precision Check							

-REFER ATTACHMENT-
-REFER ATTACHMENT-
-REFER ATTACHMENT-

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

*NOT APPLICABLE FOR ELECTRICAL SAFETY TEST
DUE TO UNIT RUNNING UNDER SOFTWARE
BOSS

PART 8 NOTES

Part 5 : Item 3

As needed Maintenance

Please indicate the part number, description of PPM Kit and any repair work to be carried out (if any) :

1. Clean/Replace air filter - Replace at least once a year (part no. 443 - 2477 - 4)
2. Replace waste tubing (part no. 442 - 5340 - 413)
3. Check/Replace Dirty Tubing - Replace at least once a year (part no. 442-5055-413)
4. Check/Replace shaft fixture no. 60 and shaft no. 276

☐ CORRECTIVE MAINTENANCE REQUIRED

☒ FUNCTIONING

☐ NOT FUNCTIONING

NEXT PPM DATE

July 2019

WORK ORDER NO ▶ *n/a*

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

COMPLETED BY:

NOOR AZARUL B AHAMAD
PERAK LAB SPECIALIST

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GreenTown Avenue 50450 Ipoh, Perak
Tel/fax : 05-2461997 Hp : 012-39648013

DATE :

30/1/2019