



Scheduled Maintenance Work Order

Work Order No	n/o 200407717	Scheduled Month	January 2019
Work Order Date	n/o 11/01/2019	Completed Date	11/1/2019
Clinic Name	K.K PENGKALAN HULU	Clinic Code	PRK014
BE No	PRK030248	District	HULU PERAK
BE Category	HEMATOLOGY ANALYZER (M)	W/O Assigned to	NOOR AZARUL
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"/> Routine Inspection (RI)	<input type="checkbox"/> Third Party Calibration (TPC) <input type="checkbox"/> Statutory Certification (SC)	

Reschedule Date	
-----------------	--

BE Third Party Calibration / Statutory Certification Details

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

Action Taken

PPM COMPLETED AS PER CHECKLIST.

* REPLACED THE NEW WBC CHAMBER AND RBC WIRING CORD DUE TO FAULTY

Manufacturer : SYSMEX
 Model : XP100
 S/N : B2308
 Purchase Date :
 Kewpa No: KKM/JSK/PRK/KK/PR-08-04/H/1612

Schedule Maintenance Execution Details

SI No	QMS Engineer / Technician Name	Date	Start Time	End Time
1	NOOR AZARUL	11/1/2019	15:00	18:50

Customer Remarks

--

Engineer / Technician Signature Name Date 11/1/2019 NOOR AZARUL B AHAMAD PERAK LAB SPECIALIST Quantum Medical Solution Sdn. Bhd. No 10 B, Persiaan Greentown 4c Greentown Avenue, 30450 Ipoh, Perak Tel/fax : 05-2461991 Hp : 012-39648013	Customer Signature Name Designation Date Seal MOHD EZHAN BIN SANUSI Juruteknologi Makmal Perubatan U29 Klinik Kesihatan Pengkalan Hulu 33100 Pengkalan Hulu, Perak
--	--

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-015-000
REV.000

PART 1 ASSET DETAILS

WORK ORDER NO ▶ *n/a* *pw0407717* BE NO ▶ *PRK030248*
MANUFACTURER ▶ *Sysmex* MODEL ▶ *xPico*
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>n/a</i>		ELECTRICAL SAFETY ANALYZER	<i>n/a</i>	

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



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 *110 pmo 40717*

PART 6 QUANTITATIVE TASKS

Tick (✓) where appropriate

No	Description	Units / UOM	Sat Values	Measured Values	Limit/Tolerance	PASS	FAIL	NA
1.	Background check - <i>RTT for PT/ODHMT - 1</i>							
2.	QC Test - <i>RTT for PT/ODHMT - 1</i>							

PART 7 ELECTRICAL SAFETY TEST

ELECTRICAL SAFETY TEST, (attach report)

Standard use :
Tick (✓) where appropriate

Result :

☐ IEC 60601 ☐ IEC 61010 ☐ IEC 62353 ☐ PASS ☐ FAIL ☒ NA

PART 8 NOTES

* NOT APPROVED FOR ELECTRICAL SAFETY TEST
DUE TO UNIT RUNNING UNDER SOFTWARE ERROR

☐ CORRECTIVE MAINTENANCE REQUIRED ☒ FUNCTIONING ☐ NOT FUNCTIONING

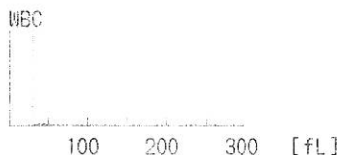
NEXT PPM DATE *July 2019*

COMPLETED BY: *Noor Azarul B Ahmad*
DATE: *11/1/2019*
PERAK LAB SPECIALIST
Quantum Medical Solutions Sdn. Bhd
No 10 B, Persiaran Greentown 4c
Greentown Avenue, 30450 Ipoh, Perak
Tel/fax: 05-2461993 / 012-39648013

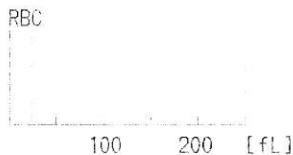
PPM has been performed in accordance to the checklist and the equipment is functioning to the intended purpose.

ID. ---BLANK CHECK---
Date 11/01/2019
Time 18:28
Mode

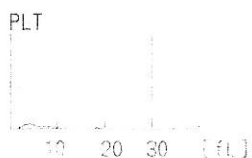
WBC 0.2 $\times 10^3/\mu\text{L}$
RBC 0.00 $\times 10^6/\mu\text{L}$
HGB 0.0 g/dL
HCT 0.0 %
MCV --- fL
MCH --- pg
MCHC --- g/dL
PLT 0 $\times 10^3/\mu\text{L}$



LYM% --- %
MXD% --- %
NEUT% --- %
LYM# --- $\times 10^3/\mu\text{L}$
MXD# --- $\times 10^3/\mu\text{L}$
NEUT# --- $\times 10^3/\mu\text{L}$



RDW-SD --- fL
RDW-CV --- %



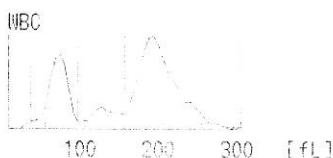
PDW --- fL
MPV --- fL
P-LCR --- %
PCT --- %

ResearchW 0.192 $\times 10^3/\mu\text{L}$
ResearchS --- $\times 10^3/\mu\text{L}$
ResearchM --- $\times 10^3/\mu\text{L}$
ResearchL --- $\times 10^3/\mu\text{L}$

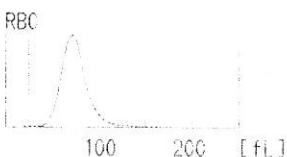
Operator

ID. QC01
Date 11/01/2019
Time 18:33
Mode QC

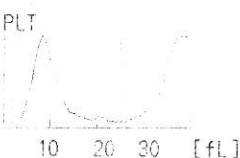
WBC 3.0 $\times 10^3/\mu\text{L}$
RBC 2.26 $\times 10^6/\mu\text{L}$
HGB 5.7 g/dL
HCT 16.6 %
MCV 73.5 fL
MCH 25.2 pg
MCHC 34.3 g/dL
PLT 65 $\times 10^3/\mu\text{L}$



LYM% 25.3 %
MXD% 10.7 %
NEUT% 64.0 %
LYM# 0.8 $\times 10^3/\mu\text{L}$
MXD# 0.3 $\times 10^3/\mu\text{L}$
NEUT# 1.9 $\times 10^3/\mu\text{L}$



RDW-SD 36.8 fL
RDW-CV 12.6 %



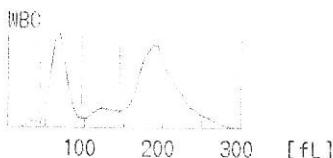
PDW 9.5 fL
MPV 10.3 fL
P-LCR 23.9 %
PCT 0.07 %

ResearchW 3.012 $\times 10^3/\mu\text{L}$
ResearchS 0.759 $\times 10^3/\mu\text{L}$
ResearchM 0.321 $\times 10^3/\mu\text{L}$
ResearchL 1.932 $\times 10^3/\mu\text{L}$

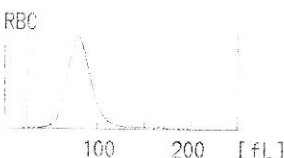
File 2
LotID 82860823
Exp. 2019/01/19

ID. QC02
Date 11/01/2019
Time 18:37

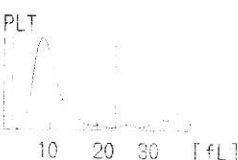
WBC 6.8 $\times 10^3/\mu\text{L}$
RBC 4.34 $\times 10^6/\mu\text{L}$
HGB 12.5 g/dL
HCT 34.7 %
MCV 80.0 fL
MCH 28.8 pg
MCHC 36.0 g/dL
PLT 226 $\times 10^3/\mu\text{L}$



LYM% 29.3 %
MXD% 9.4 %
NEUT% 61.3 %
LYM# 2.0 $\times 10^3/\mu\text{L}$
MXD# 0.6 $\times 10^3/\mu\text{L}$
NEUT# 4.2 $\times 10^3/\mu\text{L}$
W-SMV 66.2 fL
W-LMV 196.1 fL



RDW-SD 35.5 fL
RDW-CV 10.5 %



PDW 9.5 fL
MPV 9.8 fL
P-LCR 20.4 %
PCT 0.22 %

File 3
LotID 82860823
Exp. 2019/01/19

ID. QC03
Date 11/01/2019
Time 18:39

WBC 17.9 $\times 10^3/\mu\text{L}$
RBC 5.13 $\times 10^6/\mu\text{L}$
HGB 16.0 g/dL
HCT 43.6 %
MCV 85.0 fL
MCH 31.2 pg
MCHC 36.7 g/dL
PLT 502 $\times 10^3/\mu\text{L}$



LYM% 35.5 %
MXD% 16.0 %
NEUT% 48.5 %
LYM# 6.4 $\times 10^3/\mu\text{L}$
MXD# 2.9 $\times 10^3/\mu\text{L}$
NEUT# 8.6 $\times 10^3/\mu\text{L}$
W-SMV 66.4 fL
W-LMV 194.6 fL



RDW-SD 35.3 fL
RDW-CV 9.3 %



PDW 8.4 fL
MPV 9.5 fL
P-LCR 15.9 %
PCT 0.48 %

