

MANUFACTURER

Report No. 24PTP_01PM04240027

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Preventive Maintenance Action Report

EQUIPMENT DEFIBRILLATORS, EXTERNAL, MANUAL

PHILIPS

ID CODE PTP02204

MODEL HeartStart MRx (M3535A)

SERIAL No. US00566825 **LOCATION** Ambulance

SUBMITTED BY PHYATHAI PHAHOLYOTHIN HOSPITAL

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PM. DATE 16 APRIL 2024 **ISSUE DATE** 1 MAY 2024

Approved by: Performed by: USANEE CHALONGPHOKSILCHAI PHUWASIN YIWKIM

CONDITION OF THIS RESULT OF TEST

1. REFERENCE STANDARD INSTRUMENT:

MASTER MANUFACTURER MODEL SERIAL NO. CERTIFICATE NO. DUE DATE ESA615 3494034 23MD774 7 Jun 2024 **Electrical Safety** Fluke Analyzer Fluke Impulse 7000DP 2079335 23MD775 7 Jun 2024 Defibrillator Analyzer

2. THIS CERTIFICATION IS TRACEABLE TO:

- Technology Promotion Association (Thai-Japan)
- Technology Promotion Association (Thai-Japan)

3. THIS RESULT OF TEST WAS FOUND ACCURATE AS SHOW ON DATE AND PLACE OF **TEST ONLY**



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1. Qualitative Tests

No.	List	Pass	Fail	None	Comment
1	Chassis/Housing	/			
2	Mount/Fasteners	/			
3	Casters/Brakes	/			
4	AC Plug	/			
5	Receptacles	/			
6	Line Cord	/			
7	Strain Reliefs	/			
8	Cables	/			
9	Fittings/Connectors	/			
10	Paddles/Electrodes	/			
11	Controls/Switches	/			
12	Recorder (ECG)	/			
13	Lead Continuity (ECG)	/			
14	Data Recording	/			
15	Battery/Charger	/			
16	Indicators/Displays	/			
17	Self-Test	/			
18	Time/Date Settings	/			
19	Cybersecurity			/	
20	Synchronized Cardioverter	/			
21	Integral Output Tester	/			
22	Alarms	/			
23	Pacemaker Demand-Mode Activation/Inhibition	/			
24	Audible Signals	/			
25	Labeling	/			
26	Accessories	/			

2. Quantitative Tests

No.	List	Pass	Fail	None	Comment
1 (Grounding Resistance ≤0.5Ω	/			0.285 Ω
2 0	Chassis Leakage Current ≤500µA	/			73.4 μΑ
3 J	Lead -to-Ground Leakage Current ≤100μA	/			2.3 μΑ
8	grounded; ≤500μA ungrounded				



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2. Quantitative Tests (Continues)

No.	List	Pass	Fail	None	Comment
4	Manual Mode Defibrillator Output ±4 J low; ±15%	/			
	high				
5	Automated Mode Analysis and Defibrillator Output	/			AED 150J= 147.7J
	per mfr/hosp policy				
6	Multiple Discharge Output Energy and Charge	/			
	Time $\pm 15\%$, ≤ 10 sec				
7	Pediatric Mode Output Energy ≤50 J	/			
8	Internal Paddle Energy Limit ≤50 J			/	
9	Energy after 50 Sec (Manual Mode) ≥85%	/			
10	Synchronized Cardioverter Operation ≤60 msec	/			100J = 93.8 J, 22 ms
	after R-wave				
11	Paper Speed ±2%	/			
12	Heart Rate ±5%	/			
13	Heart Rate Alarm	/			
14	Pacing Rate ±5%	/			
15	Pacing Amplitude ±10%	/			
16	Pacing Pulse Width ±10%	/			
17	Demand-Mode Sensitivity ≤0.5 mV or mfr spec	/			

3. Preventive Maintenance

No.	List	Pass	Fail	None	Comment
1	Clean the exterior and accessories	/			
2	Lubricate			/	
3	Adjust			/	
4	Replace			/	

 $Electrical\ Safety\ Test: Master\ used\ Electrical\ Safety\ Analyzer\ (\ Metron\ /\ QA-90\)\ according\ to\ IEC.60601.1$