

MANUFACTURER

Certificate No.

24PTP\_0104240255

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## **Certificate of Calibration**

EQUIPMENT : DEFIBRILLATORS, EXTERNAL, MANUAL

**PHILIPS** 

ID CODE : PTP01826

MODEL : HeartStart XL (M4735A)

SERIAL No. : US00577901

LOCATION : X-Ray

SUBMITTED BY : PHYATHAI PHAHOLYOTHIN HOSPITAL

670/1 Phaholyothin Road, Samsen Nai, Phaya Thai, Bangkok 10400

Tel: 02-271-7000 Fax: -

CALIBRATED DATE : 23 APRIL 2024

ISSUE DATE : 1 MAY 2024

Kanittha.

KANITTHA SRIPRAPAD

21004

PHUWASIN YIWKIM

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Approved by:

#### **CONDITION OF THIS RESULT OF TEST**

#### 1. REFERENCE STANDARD INSTRUMENT:

MASTERMANUFACTURERMODELSERIAL NO.CERTIFICATE NO.DUE DATEDefibrillatorFlukeImpulse 7000DP207933523MD7757 Jun 2024

Analyzer

Performed by:

### 2. THIS CERTIFICATION IS TRACEABLE TO:

- 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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# **Calibration Report**

EQUIPMENT : DEFIBRILLATORS, EXTERNAL, MANUAL

ID CODE : PTP01826

MANUFACTURER : PHILIPS

MODEL : HeartStart XL (M4735A)

SERIAL No. : US00577901

DATE OF CALIBRATION : 23 APRIL 2024

ENVIRONMENT : TEMPERATURE 25 °C

RELATIVE HUMIDITY 55 %

#### **PROCEDURE USED:**

This instrument was calibration by comparison with standard

### **MEASURMENT RESULT:**

/	Without Adjustment		Before Adjustment		After Adjustment
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Output Energy						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(Joule)	(Joule)	(Joule)	(%)	(Joule)		
10	10.00	0.00	0.00	± 0.1400		
100	98.80	-1.20	-1.20	± 0.2800		
200	197.10	-2.90	-1.45	± 0.5500		

Output Energy (Energy after 50 Sec (Manual Mode) ≥85%)						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(Joule)	(Joule)	(Joule)	(%)	(Joule)		
100	97.60	-2.40	-2.40	± 0.2800		

Heart Rate						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(BPM)	(BPM)	(BPM)	(%)	(BPM)		
60	60.00	0.00	0.00	± 0.0150		
80	80.00	0.00	0.00	± 0.0170		
120	120.00	0.00	0.00	± 0.0150		

Gain						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mm/mV)	(mm/mV)	(mm/mV)	(%)	(mm/mV)		
5	5.00	0.00	0.00	± 0.1155		
10	10.00	0.00	0.00	± 0.2309		



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EQUIPMENT : DEFIBRILLATORS, EXTERNAL, MANUAL

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Gain (Continues)						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mm/mV)	(mm/mV)	(mm/mV)	(%)	(mm/mV)		
20	20.00	0.00	0.00	± 0.4619		

Amplitude						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mV)	(mV)	(mV)	(%)	(mV)		
1	1.00	0.00	0.00	± 0.0231		
2	2.00	0.00	0.00	± 0.0462		

Paper Speed					
Standard Setting	UUC* Reading	Error	% Error	Uncertainty	
(mm/sec)	(mm/sec)	(mm/sec)	(%)	(mm/sec)	
25	25.00	0.00	0.00	± 0.2887	

### **UUC\*: Unit Under Calibration**

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%

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