

Certificate No.

24PTP\_0104240259

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### **Certificate of Calibration**

EQUIPMENT : ELECTROSURGICAL UNITS

ID CODE : PTP00548

MANUFACTURER : ERBE

MODEL : ICC 200

SERIAL No. : D-2235

LOCATION : Operating Room

SUBMITTED BY : PHYATHAI PHAHOLYOTHIN HOSPITAL

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

Tel: 02-271-7000 Fax: -

CALIBRATED DATE : 24 APRIL 2024

ISSUE DATE : 1 MAY 2024

Supatcha

Performed by : Approved by : SUPATCHA BUAPUEAN

PHUWASIN YIWKIM

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

#### 1. REFERENCE STANDARD INSTRUMENT:

MASTERMANUFACTURERMODELSERIAL NO.CERTIFICATE NO.DUE DATEElectrosurgeryFluke BiomedicalQA-ES III572872623MD85221 Jun 2024Analyzer

### 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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DATE OF CALIBRATION : 24 APRIL 2024

ENVIRONMENT : TEMPERATURE 24 °C

RELATIVE HUMIDITY 56 %

### **PROCEDURE USED:**

This instrument was calibration by comparison with standard

### **MEASURMENT RESULT:**

| / | Without Adjustment |  | Before Adjustment |  | After Adjustment |
|---|--------------------|--|-------------------|--|------------------|
|---|--------------------|--|-------------------|--|------------------|

| Energy Monopolar/Cut |                  |        |         |             |  |  |
|----------------------|------------------|--------|---------|-------------|--|--|
| UUC* Setting         | Standard Reading | Error  | % Error | Uncertainty |  |  |
| (Watt)               | (Watt)           | (Watt) | (%)     | (Watt)      |  |  |
| 20                   | 19.60            | -0.40  | -2.00   | ± 1.1547    |  |  |
| 50                   | 54.20            | 4.20   | 8.40    | ± 2.8868    |  |  |
| 100                  | 110.00           | 10.00  | 10.00   | ± 5.7737    |  |  |
| 200                  | 215.00           | 15.00  | 7.50    | ± 11.5473   |  |  |

| Energy Monopolar/Coag |                  |        |         |             |  |  |
|-----------------------|------------------|--------|---------|-------------|--|--|
| UUC* Setting          | Standard Reading | Error  | % Error | Uncertainty |  |  |
| (Watt)                | (Watt)           | (Watt) | (%)     | (Watt)      |  |  |
| 20                    | 17.70            | -2.30  | -11.50  | ± 1.1547    |  |  |
| 50                    | 45.70            | -4.30  | -8.60   | ± 2.8868    |  |  |
| 80                    | 73.60            | -6.40  | -8.00   | ± 4.6189    |  |  |
| 100                   | 96.10            | -3.90  | -3.90   | ± 5.7737    |  |  |
| 120                   | 112.00           | -8.00  | -6.67   | ± 6.9284    |  |  |

| Energy Bipolar |                  |        |         |             |  |  |
|----------------|------------------|--------|---------|-------------|--|--|
| UUC* Setting   | Standard Reading | Error  | % Error | Uncertainty |  |  |
| (Watt)         | (Watt)           | (Watt) | (%)     | (Watt)      |  |  |
| 10             | 8.80             | -1.20  | -12.00  | ± 0.5774    |  |  |
| 30             | 30.80            | 0.80   | 2.67    | ± 1.7321    |  |  |
| 50             | 53.50            | 3.50   | 7.00    | ± 2.8868    |  |  |
| 60             | 63.60            | 3.60   | 6.00    | ± 3.4642    |  |  |



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| Energy Bipolar (Continues) |                  |        |         |             |  |
|----------------------------|------------------|--------|---------|-------------|--|
| UUC* Setting               | Standard Reading | Error  | % Error | Uncertainty |  |
| (Watt)                     | (Watt)           | (Watt) | (%)     | (Watt)      |  |
| 70                         | 73.60            | 3.60   | 5.14    | ± 4.0416    |  |

### **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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