

Certificate No. 24PTP\_0104240340

Page 1 of 3

### **Certificate of Calibration**

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP02529

MANUFACTURER : PURITAN BENNETT

MODEL: 840

SERIAL No. : 3512110639

LOCATION : I.C.U

SUBMITTED BY : PHYATHAI PHAHOLYOTHIN HOSPITAL

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

Tel: 02-271-7000 Fax: -

CALIBRATED DATE : 26 APRIL 2024

ISSUE DATE : 3 MAY 2024

Supatcha Approved by:

SUPATCHA BUAPUEAN PHUWASIN YIWKIM

This certificate may not be reproduced except in full unless permission for reproduction has been obtained in writing from the calibration.

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

Performed by:

#### 1. REFERENCE STANDARD INSTRUMENT:

MASTERMANUFACTURERMODELSERIAL NO.CERTIFICATE NO.DUE DATEGas Flow AnalyzerFluke BiomedicalVT650606972523MD115827 Aug 2024

#### 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



Certificate No. 24PTP\_0104240340

Page 2 of 3

## **Calibration Report**

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP02529

MANUFACTURER : PURITAN BENNETT

MODEL: 840

SERIAL No. : 3512110639

DATE OF CALIBRATION : 26 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 |
|---|--------------------|--|-------------------|--|------------------|
|---|--------------------|--|-------------------|--|------------------|

| TIDAL VOLUME |                  |       |         |             |  |  |
|--------------|------------------|-------|---------|-------------|--|--|
| UUC* Setting | Standard Reading | Error | % Error | Uncertainty |  |  |
| (mL)         | (mL)             | (mL)  | (%)     | (mL)        |  |  |
| 400          | 419.58           | 19.58 | 4.89    | ± 14.4133   |  |  |
| 600          | 623.50           | 23.50 | 3.92    | ± 21.7615   |  |  |
| 800          | 828.00           | 28.00 | 3.50    | ± 28.9574   |  |  |

| BREATH RATE  |                  |       |         |             |  |  |
|--------------|------------------|-------|---------|-------------|--|--|
| UUC* Setting | Standard Reading | Error | % Error | Uncertainty |  |  |
| (BPM)        | (BPM)            | (BPM) | (%)     | (BPM)       |  |  |
| 30           | 30.00            | 0.00  | 0.00    | ± 0.3464    |  |  |
| 20           | 20.00            | 0.00  | 0.00    | ± 0.2309    |  |  |
| 15           | 15.00            | 0.00  | 0.00    | ± 0.1732    |  |  |

| I:E RATIO    |                  |         |         |             |  |
|--------------|------------------|---------|---------|-------------|--|
| UUC* Setting | Standard Reading | Error   | % Error | Uncertainty |  |
| ((1:x))      | ((1:x))          | ((1:x)) | (%)     | ((1:x))     |  |
| 1            | 1.02             | 0.02    | 2.00    | ± 0.0231    |  |
| 2            | 2.01             | 0.01    | 0.50    | ± 0.0462    |  |
| 3            | 3.03             | 0.03    | 1.00    | ± 0.0693    |  |

FI-BME-NHS-CP-018/1 Rev.03 Page 2/3 Issued Date 20/07/2023



Certificate No. 24PTP\_0104240340

Page 3 of 3

# **Calibration Report**

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP02529

SERIAL No. : 3512110639

| PIP                  |                      |                      |         |                      |  |  |
|----------------------|----------------------|----------------------|---------|----------------------|--|--|
| UUC* Setting         | Standard Reading     | Error                | % Error | Uncertainty          |  |  |
| (cmH <sub>2</sub> O) | (cmH <sub>2</sub> O) | (cmH <sub>2</sub> O) | (%)     | (cmH <sub>2</sub> O) |  |  |
| 20                   | 19.92                | -0.08                | -0.40   | ± 0.3200             |  |  |
| 30                   | 29.32                | -0.68                | -2.27   | ± 0.3200             |  |  |
| 40                   | 39.12                | -0.88                | -2.20   | ± 0.3200             |  |  |

| PEEP         |                  |         |         |             |  |
|--------------|------------------|---------|---------|-------------|--|
| UUC* Setting | Standard Reading | Error   | % Error | Uncertainty |  |
| (cmH2O)      | (cmH2O)          | (cmH2O) | (%)     | (cmH2O)     |  |
| 5            | 4.93             | -0.07   | -1.40   | ± 0.0577    |  |
| 10           | 10.09            | 0.08    | 0.85    | ± 0.1159    |  |
| 15           | 15.33            | 0.33    | 2.20    | ± 0.1732    |  |

### **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%

FI-BME-NHS-CP-018/1 Rev.03 Page 3/3 Issued Date 20/07/2023