

*Certificate No.* 24PTP\_0104240318

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### **Certificate of Calibration**

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP02558

MANUFACTURER : PURITAN BENNETT

MODEL: 840

SERIAL No. : BDU 3510070818

LOCATION : I.C.U

SUBMITTED BY : PHYATHAI PHAHOLYOTHIN HOSPITAL

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

PHUWASIN YIWKIM

Tel: 02-271-7000 Fax: -

CALIBRATED DATE : 25 APRIL 2024

KANITTHA SRIPRAPAD

ISSUE DATE : 3 MAY 2024

Kanittha. Approved by:

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### **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



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# **Calibration Report**

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DATE OF CALIBRATION : 25 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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TIDAL VOLUME						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(mL)	(mL)	(mL)	(%)	(mL)		
400	399.38	-0.63	-0.16	± 14.5905		
600	584.28	-15.73	-2.62	± 21.7732		
800	781.83	-18.18	-2.27	± 28.9021		

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	2.00	-0.00	-0.12	± 0.0465		
3	2.97	-0.03	-1.00	± 0.0693		

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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	20.19	0.19	0.95	± 0.3200		
30	30.52	0.52	1.73	± 0.3200		
40	40.81	0.81	2.03	± 0.3200		

PEEP						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(cmH2O)	(cmH2O)	(cmH2O)	(%)	(cmH2O)		
5	5.02	0.02	0.40	± 0.0577		
10	10.09	0.09	0.90	± 0.1155		
15	15.12	0.12	0.80	± 0.1732		

% OXYGEN						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(%O <sub>2</sub> )	(%O <sub>2</sub> )	$(\%O_2)$	(%)	(%O <sub>2</sub> )		
21	21.48	0.48	2.26	± 0.4876		
60	60.33	0.32	0.54	± 1.3866		
100	99.60	-0.40	-0.40	± 2.3095		

### **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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