

Certificate No. 24PTP_0104240111

Page 1 of 3

Certificate of Calibration

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP00218

MANUFACTURER : CAREFUSION

MODEL : VELA

SERIAL No. : BDT02140

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 : 18 APRIL 2024

ISSUE DATE : 3 MAY 2024

Supatcha

Performed by: _____ 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

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_0104240111

Page 2 of 3

Calibration Report

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP00218

MANUFACTURER : CAREFUSION

MODEL : VELA

SERIAL No. : BDT02140

DATE OF CALIBRATION : 18 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	375.45	-24.55	-6.14	± 14.4078		
600	566.20	-33.80	-5.63	± 21.9020		
800	760.50	-39.50	-4.94	± 28.9280		

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	1.01	0.01	1.00	± 0.0231		
2	1.96	-0.04	-2.00	± 0.0462		
3	2.94	-0.06	-2.00	± 0.0693		

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



Certificate No. 24PTP_0104240111

Page 3 of 3

Calibration Report

EQUIPMENT : VENTILATORS, INTENSIVE CARE

ID CODE : PTP00218 SERIAL No. : BDT02140

PIP						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(cmH ₂ O)	(cmH ₂ O)	(cmH ₂ O)	(%)	(cmH ₂ O)		
20	19.41	-0.59	-2.95	± 0.3200		
30	29.10	-0.90	-3.00	± 0.3200		
40	38.83	-1.17	-2.93	± 0.3200		

PEEP						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(cmH2O)	(cmH2O)	(cmH2O)	(%)	(cmH2O)		
5	5.40	0.40	8.00	± 0.0577		
10	10.49	0.49	4.90	± 0.1155		
15	15.59	0.59	3.93	± 0.1732		

% OXYGEN						
UUC* Setting	Standard Reading	Error	% Error	Uncertainty		
(%O ₂)	(%O ₂)	(%O ₂)	(%)	(%O ₂)		
21	21.80	0.80	3.81	± 0.4850		
60	62.00	2.00	3.33	± 1.3857		
100	98.40	-1.60	-1.60	± 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%

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