

Report of Calibration

MANUFACTURER: Fluke Biomedical MODEL NUMBER: IDA-6/M SERIAL NUMBER: 6468045 TECHNICIAN: Frida Lindgren TEMPERATURE: (15 - 25) °C HUMIDITY: <80 %rh	CUSTOMER INFORMATION Homeland RIYADH REPORT NUMBER: 2025000052 ISSUE DATE: 09 MAY 2025 CALIBRATION DATE: 09 MAY 2025 AS-FOUND STATUS: Pass AS-LEFT STATUS: Pass
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This calibration report confirms that the measurements are traceable to the International System of Units (SI) through recognized national metrology institutes.

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Measurement Uncertainty:

All measurements have inherent uncertainties, which are expressed in base units on the following pages. These uncertainties are reported according to EA-4/02 and JCGM 100:2008 guidelines. "Expanded uncertainty" refers to the standard uncertainty multiplied by a coverage factor ($k=2$), indicating a 95% probability that the true value lies within the stated range.

Compliance with Specification:

This report uses a specific decision rule to determine if the calibrated item meets its specifications, considering measurement uncertainty. This rule is based on ILAC-G8:09/2019 and uses a 95% coverage probability for the expanded uncertainty.

Decision Rule:

To determine compliance, a guardband is calculated and compared to the measurement error (the difference between the measured value and the reference value).

Guardband Calculation: The guardband (G) is calculated using the root-difference-square (RDS) method:

$$G = \sqrt{S^2 + U_{95\%}^2}$$

where:

- S is the specification limit
- $U_{95\%}$ is the expanded uncertainty at a 95% confidence level

This decision rule applies when comparing the measured value to a product specification.

APPROVED BY:


 Production Operator
 Frida Lindgren

STANDARDS USED



Serial Number	Description	Due Date
1122041	Infusion Pump	12 Aug 2025
56330004	Pressure Measurement Module	23 Oct 2025

MODEL NUMBER: IDA-6/M SERIAL NUMBER: 6468045
TEST RESULTS: **AS FOUND**

Test Description	Expected Value	Measured Value	Expanded Uncertainty	Lower Limit	Upper Limit	Units	Status
Device Under Test: IDA-6/M, SN:6468045, Firmware Rev:3.38							
PRESSURE VERIFICATION							
2500 mmHg (Inlet)	2500.00	2508.1	3.2e+00 mmHg	2470.0	2530.0	mmHg	Pass
2500 mmHg (Outlet)	2500.00	2505.3	5.6e+00 mmHg	2465.0	2535.0	mmHg	Pass
1000 mmHg (Inlet)	1000.00	1003.5	1.3e+00 mmHg	985.0	1015.0	mmHg	Pass
1000 mmHg (Outlet)	1000.00	1002.4	3.2e+00 mmHg	980.0	1020.0	mmHg	Pass
500 mmHg (Inlet)	500.00	501.8	8.7e-01 mmHg	490.0	510.0	mmHg	Pass
500 mmHg (Outlet)	500.00	501.3	3.3e+00 mmHg	485.0	515.0	mmHg	Pass
200 mmHg (Inlet)	200.00	200.8	5.4e-01 mmHg	193.0	207.0	mmHg	Pass
200 mmHg (Outlet)	200.00	200.7	1.3e+00 mmHg	188.0	212.0	mmHg	Pass
100 mmHg (Inlet)	100.00	100.4	6.7e-01 mmHg	94.0	106.0	mmHg	Pass
100 mmHg (Outlet)	100.00	100.4	1.8e+00 mmHg	89.0	111.0	mmHg	Pass
-100 mmHg (Inlet)	-100.00	-100.3	6.8e-01 mmHg	-106.0	-94.0	mmHg	Pass
-100 mmHg (Outlet)	-100.00	-99.9	2.0e+00 mmHg	-111.0	-89.0	mmHg	Pass
-200 mmHg (Inlet)	-200.00	-200.7	6.8e-01 mmHg	-207.0	-193.0	mmHg	Pass
-200 mmHg (Outlet)	-200.00	-200.2	2.4e+00 mmHg	-212.0	-188.0	mmHg	Pass
VOLUME & FLOW VERIFICATION							
5 mL @ 100 mL/h	5.0000	5.005	3.6e-02 mL	4.947	5.053	mL	Pass
5 mL @ 100 mL/h	100.0000	100.178	7.1e-01 mL/h	98.995	101.005	mL/h	Pass
20 mL @ 1000 mL/h	20.0000	20.043	1.2e-01 mL	19.600	20.400	mL	Pass
20 mL @ 1000 mL/h	1000.0000	1001.664	5.9e-01 mL/h	980.000	1020.000	mL/h	Pass
100 mmHg Backpressure Test							Pass
10 mL @ 300 mL/h	10.0000	10.004	6.2e-02 mL	9.897	10.103	mL	Pass
10 mL @ 300 mL/h	300.0000	300.144	6.4e-01 mL/h	296.995	303.005	mL/h	Pass

MODEL NUMBER: **IDA-6/M** SERIAL NUMBER: **6468045**
 TEST RESULTS: **AS LEFT**

Test Description	Expected Value	Measured Value	Expanded Uncertainty	Lower Limit	Upper Limit	Units	Status
Device Under Test: IDA-6/M, SN:6468045, Firmware Rev:3.38							
PRESSURE VERIFICATION							
2500 mmHg (Inlet)	2500.00	2498.9	3.2e+00 mmHg	2470.0	2530.0	mmHg	Pass
2500 mmHg (Outlet)	2500.00	2501.4	5.6e+00 mmHg	2465.0	2535.0	mmHg	Pass
1000 mmHg (Inlet)	1000.00	999.0	1.3e+00 mmHg	985.0	1015.0	mmHg	Pass
1000 mmHg (Outlet)	1000.00	1000.0	3.2e+00 mmHg	980.0	1020.0	mmHg	Pass
500 mmHg (Inlet)	500.00	499.6	8.7e-01 mmHg	490.0	510.0	mmHg	Pass
500 mmHg (Outlet)	500.00	501.6	3.3e+00 mmHg	485.0	515.0	mmHg	Pass
200 mmHg (Inlet)	200.00	200.5	5.4e-01 mmHg	193.0	207.0	mmHg	Pass
200 mmHg (Outlet)	200.00	202.1	1.3e+00 mmHg	188.0	212.0	mmHg	Pass
100 mmHg (Inlet)	100.00	100.8	6.7e-01 mmHg	94.0	106.0	mmHg	Pass
100 mmHg (Outlet)	100.00	101.8	1.8e+00 mmHg	89.0	111.0	mmHg	Pass
-100 mmHg (Inlet)	-100.00	-98.8	6.8e-01 mmHg	-106.0	-94.0	mmHg	Pass
-100 mmHg (Outlet)	-100.00	-97.7	2.0e+00 mmHg	-111.0	-89.0	mmHg	Pass
-200 mmHg (Inlet)	-200.00	-198.4	6.8e-01 mmHg	-207.0	-193.0	mmHg	Pass
-200 mmHg (Outlet)	-200.00	-197.9	2.4e+00 mmHg	-212.0	-188.0	mmHg	Pass
VOLUME & FLOW VERIFICATION							
5 mL @ 100 mL/h	5.0000	5.016	3.6e-02 mL	4.947	5.053	mL	Pass
5 mL @ 100 mL/h	100.0000	100.295	7.1e-01 mL/h	98.995	101.005	mL/h	Pass
20 mL @ 1000 mL/h	20.0000	20.033	1.2e-01 mL	19.600	20.400	mL	Pass
20 mL @ 1000 mL/h	1000.0000	1000.171	5.9e-01 mL/h	980.000	1020.000	mL/h	Pass
100 mmHg Backpressure Test							Pass
10 mL @ 300 mL/h	10.0000	10.029	6.2e-02 mL	9.897	10.103	mL	Pass
10 mL @ 300 mL/h	300.0000	300.934	6.4e-01 mL/h	296.995	303.005	mL/h	Pass

*** END_OF_REPORT ***