



Calibration Certificate

Calibration certificate number: 2890 A	ULR (Unique Lab Report) number: CC26902000002890F	Page 01 of 02
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Customer: Pulse Path Clinical
23 Aroma Complex, 1st Floor, Soma Talav, Char Rasta Dabhoi Road
Vadodara - 390025

Through: Thermo Fisher Scientific India Pvt. Ltd., Pipette Division, Nashik.

Calibration details:

Calibration and Certificate issue date: 9/10/20 Lab work order number: 20/10-04 Calibrated by: Rupesh Bhamare
Calibration location: Thermo Fisher Scientific India Pvt. Ltd. – Calibration Laboratory, D-96, MIDC Satpur, Nashik – 422 007.

Next calibration date (as per Customer's request): 9/10/21

Device information:

Description: Erba_5-50ul	Number of channels: 1
Catalogue number: EA_1_5-50	Serial number: 01143490
Manufacturer: Non-Thermo (Pipette)	Tip used: Provided by customer
	Customer's asset ID: --

Environmental condition:

Air Temperature: 26.69 °C	Air Pressure: 939.2 hPa
Water Temperature: 26.30 °C	Relative Humidity (%RH): 59.8 %
Z correction factor (µl/mg): 1.0043	Y correction factor ((1/K)xK): 1.00014

Master equipment details (Traceable to National and International standards):

Equipment	Lab ID	Serial number	Model number	Calibration date	Calibration due date	Calibrated by with NABL certificate number
Micro Balance (Mettler Toledo)	QP-01	B115129039	XP26PC	13/11/19	12/11/20	Mettler Toledo, Mumbai (CC-2523)
Universal measuring instrument with sensors for environmental parameters (Almemo)	QP-10	H19070544	2590-4AS	07/10/20	06/10/21	Autocal, Nashik (CC-2052)

Measurement procedure:

The pipette calibration work instruction (LD-03/WI-01) of Thermo Fisher calibration laboratory follows the guidelines of the ISO 8655-6 standard. The device is calibrated for delivery (Ex) of the test liquid. The used test liquid is distilled water fulfilling ISO 3696 requirements. Calculations are done using the following formula: $V(\mu l) = m(mg) \times Z (\mu l/mg) \times Y ((1/K) \times K)$. The mass / volume conversion is done using the Z factor (Annex A in EN ISO 8655-6). The obtained results are converted to correspond the reference temperature of 27°C using the Y factor. With variable volume devices nominal volume, 50 % of the nominal volume and 10% of the nominal volume or the minimum volume of the range (the higher value is used) are calibrated. With fixed volume devices, the nominal volume is calibrated. Ten measurements are performed at each calibrate volume. The test device is held at the calibration laboratory for minimum of two hours to reach the temperature equilibrium. The environmental conditions of the laboratory are monitored and recorded during the calibration procedure. The stated uncertainty is the expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor $k = 2$.

This corresponds the confidence level of 95%. The uncertainty budget is defined by lab internal procedure following the guidelines of ISO/TR 20461.

Device conformity status (considering applied Decision rule): **PASSED**

Calibration Laboratory Manager:
(Signature and Date)

Pramod Jadhav

9/10/20
Date

