NVLAP
CALIBRATION
NVLAP LAB CODE 200348-0

FLUKE
Calibration

Certificate Of Calibration
Fluke Calibration, American Fork
Temperature Laboratory

Certificate Number:	C0B17104		
Status:	As-Left: Pass	**Date of Calibration:**	16 Nov 2020
		Date Due:	
Model:	1551A	**Temperature:**	21 to 25 °C
Serial Number:	5153002	**Relative Humidity:**	20 to 55 %rh
Description:	Digital Thermometer with Probe	**Pressure:**	83.5 to 88.5 kPa
Procedure:	AFC1024 Rev 001	**Issue Date:**	17 Nov 2020
Calibration Model:	1551A		
Customer:	FLUKE DO BRASIL LTDA		
Location:	SAO PAULO, BR		
PO Number:	12317		
RMA/SO Number:	32073577		

This calibration is traceable to the International System of Units (SI) through recognized national metrology institutes (NIST, NRC, PTB, NPL, etc.), ratiometric techniques, or natural physical constants and is in compliance with ISO17025:2017. Calibration certificates without identification of the authorizing person are not valid. This certificate applies to only the item identified and shall not be reproduced except in full, without the specific written approval by Fluke Corporation. This certificate shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

This certificate of calibration may contain data that is not covered by the Scope of Accreditation. The unaccredited measurement points are indicated by the # symbol or confined to clearly marked sections.

Measurement uncertainties at the time of calibration are given where applicable. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95 %.

Calibration status should be interpreted as follows:
As-Found: Data collected before the unit was adjusted and / or repaired.
Found-Left: Data collected without any adjustment and / or repair performed.
As–Left: Data collected after the unit has been adjusted and/or repaired.

Comments:

APROVADO
Responsável: RENATO
Padrão: J003A03TE
Data: 08/01/2021
Validade: 16/11/2022

Cert:C0B17104
Due :
S/N :5153002

Rachel Strasburg
Authorized By
RACHEL STRASBURG
QUALITY ANALYST

Quality Manuals

This calibration has been completed in accordance with:
- The Fluke Corporate Quality Manual, QSD 111.0, and/or
- The Fluke 17025 Quality Manual, QSD 111.41

Fluke values feedback. Please contact us at http://us.flukecal.com/about/contact.

Method Used

The instrument described herein was calibrated by direct comparison to a Standard Platinum Resistance Thermometer (SPRT) and a precision digital thermometer readout in stirred-liquid calibration baths at the temperatures indicated on the following pages. The calibration data, measurement uncertainties, instrument adjustment parameters, and instrument settings are shown on the following pages.

Data Section

The Calibration Data section is described as follows. Reference Value is the value indicated by the reference instrumentation. Measurement Result is the device under test (DUT) measurement result. Measurement Error is the DUT measurement error. Maximum Permissible Error is the DUT specification or tolerance as stated in the DUT manual. Expanded Uncertainty is the measurement uncertainty of the results as described on page 1. The measurement uncertainty accounts for all known uncertainties present at the time of calibration including long-term behavior of the calibration system, measurement precision, and contributions from the DUT. It is recommended that the DUT specification or tolerance be used as the contribution of the DUT rather than the calibration expanded uncertainty in any uncertainty analysis where the DUT is used.

Calibration uncertainties have been taken into account in the determination of tolerance status using risk analysis algorithms. The possible Status results are Pass, Marginal, and Fail. Marginal status is indicated with a M and is applied when Measurement Error is within Maximum Permissible Error but is too close to determine a status of Pass with a false accept risk of 2% or less.

APROVADO
Responsável: RENATO
Padrão: T003A03TE
Data: 08/01/2021
Validade: 16/11/2022

Certificate Number: C0B17104 **Date of Calibration** 16 Nov 2020

Standards Used

Description	Model	Serial No.	Due Date
Precision Digital Thermometer	1595A	B17050	09 Mar 2021
SPRT Metal Sheath	5699	0296	19 Dec 2022
SPRT Metal Sheath	5699	0433	23 Sep 2022
SPRT Metal Sheath	5699	0629	30 Jul 2021
SPRT Metal Sheath	5699	0633	04 Apr 2022
SPRT Metal Sheath	5699	0634	12 Mar 2022
155x Test Station		9	NCR

Calibration Data

Description	Reference Value	Measurement Result	Measurement Error	Expanded Uncertainty	Maximum Permissible Error	Status
As Left Data						
Adjustment Parameters						
R0: 99.985400						
A: 3.917415E-03						
B: -6.465830E-07						
C: -5.001717E-12						
MINOP: -60						
MAXOP: 170						
DEVICE CAL 1: 50.0080:0.0944						
DEVICE CAL 2: 100.0020:0.0871						
DEVICE CAL 3: 150.0070:0.0826						
DEVICE CAL 4: 200.0000:0.0841						
USER CAL 1: -50.0000:0.0000						
USER CAL 2: 0.0000:0.0000						
USER CAL 3: 157.0000:0.0000						
Test ID: C0321084231205						
Temperature (°C)						
-50 °C	-49.9777	-49.9803	-0.003	0.012	0.050	P
-25 °C	-24.9351	-24.9415	-0.006	0.012	0.050	P
0 °C	0.0060	0.0185	0.012	0.012	0.050	P
100 °C	99.9988	99.9962	-0.003	0.012	0.050	P
157 °C	156.9037	156.9048	0.001	0.012	0.050	P

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