CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

ESPEC North America
4141 Central Parkway
Hudsonville, MI 49426

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 07 July 2022
Certificate Number: AC-2061

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ESPEC North America
4141 Central Parkway
Hudsonville, MI 49426
Brian Alber 616-896-6100

CALIBRATION

Valid to: **July 07, 2022** Certificate Number: **AC-2061**

Electrical - DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage – Generate [1]	Up to 1.1 V (1.1 to 10) V (10 to 15) V	0.018 mV 0.013 mV 0.18 V	Fluke Process Calibrator
DC Current – Generate [1]	(4 to 22) mA	0.03 mA	Fluke Process Calibrator
Electrical Simulation of Thermocouple Systems – Source/Measure [1]	Type T (-200 to 0) °C (0 to 400) °C Type K (-100 to 800) °C	 0.56 °C 0.46 °C 0.55 °C	Fluke Process Calibrator

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Relative Humidity – Measure [1]	(15 to 25) °C Up to 40 %RH (40 to 97) %RH (25 to 100) °C (40 to 97) %RH	 1.6 %RH 2.8 %RH 3.4 %RH	Vaisala HMP77 Temp/Humidity Indicator/Probe
Temperature Measure [1]	(-20 to 100) °C	0.84 °C	Vaisala HMP77 Temp/Humidity Indicator/Probe

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2061.

R. Douglas Leonard Jr., VP, PILR SBU