



# CERTIFICATE OF CALIBRATION

ACCREDITED CERTIFICATE NUMBER: NC-22-12-06-176

Device Name: Cryo-Temp  
Serial Number: S27725

Calibration laboratory environmental conditions: 18 °C – 25 °C, 20 %RH – 55 %RH  
Calibration Date: 2022-12-06  
Next Calibration Due: 2023-12-06

Device ID: Temp  
Issued to: MK Scientific Inc.  
Yokohama, Japan 244-0003

MadgeTech Calibration Laboratory uses the shared risk approach as defined in ILAC G8 when making compliance statements

**Cryo-Temp** - Temperature - **Serial Number: S27725**

**Published Device Specifications** **Calibrated using MadgeTech WI No: 320409**

**Calibrated Accuracy:** ±1.0 °C **Resolution:** 0.1 °C  
**Calibrated Accuracy Range:** -86 °C to 35 °C

Channel 1 - Units of °C Expanded Uncertainty is not applied to Device Error

Temperature Env. Temperature	Standard Actual Test Point	DUT Corrected Device As Left	Device Error = Device - Standard	Expanded Uncertainty Expressed at approx. 95% confidence level using coverage factor k = 2
-	-80.022	-80.0	0.0	0.067
-	25.11	25.1	0.0	0.32

### Applied Correction Values

**Gain:** 1.0025519  
**Offset:** -0.17 °C

Reference Equipment	Serial #	Certificate #	Last Calibration Date	Next Calibration Due
Fluke / Hart Scientific 1502A / 5615	B41516/905885	2022012478	2022-06-10	2023-06-10
Vaisala HMP155	M2320114	2022019527	2022-09-06	2023-03-06

Last date  
2022-12-06  
Due date  
2023-12-06

**Calibration Notes:**

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Calibrated By: Kerry Klimek

Date: 2022-12-07

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Approved By Quality Inspector:

**MadgeTech, Inc.**

**QC  
2005**

Date: 2022-12-07

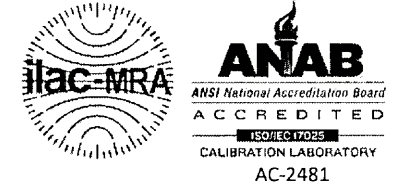
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MadgeTech, Inc. Calibration laboratory located at 6 Warner Road Warner, NH 03278 603-456-2011

The instrument identified was calibrated as a direct comparison to the reference standards listed which are traceable to the International System of Units (SI) through NIST or other National Metrology Institute and did not involve any sampling. Results reported on this certificate relate only to the serial number referenced at the time of calibration and do not imply certification of the device, process, system or technician by ANAB, NIST or any other federal agency. No allowance has been made for the stability of the device due to use, time, or wear. Such allowances would be made by the user. This certificate may not be reproduced, except in full, without written approval by MadgeTech, Inc.



# CERTIFICATE OF AS-FOUND



ACCREDITED CERTIFICATE NUMBER: NC-22-10-18-096

Device ID: Temp Calibration laboratory environmental conditions: 18 °C – 25 °C, 20 %RH – 55 %RH  
 Issued to: MK Scientific Inc. Calibration Date: 2022-10-17  
 Yokohama, Japan 244-0003

MadgeTech Calibration Laboratory uses the shared risk approach as defined in ILAC G8 when making compliance statements

**Cryo-Temp - Temperature - Serial Number: R88263**

Published Device Specifications Calibrated using MadgeTech WI No: 320409

Calibrated Accuracy: ±1.0 °C Resolution: 0.1 °C  
 Calibrated Accuracy Range: -86 °C to 35 °C

Channel 1 - Units of °C Expanded Uncertainty is not applied to Device Error

Temperature Env. Temperature	Standard Actual Test Point	DUT Uncorrected Device As Found	Device Error = Device - Standard	Expanded Uncertainty Expressed at approx. 95% confidence level using coverage factor k = 2
-	80.039	-80.1	-0.1	0.067
-	25.08	24.9	-0.2	0.32

**Initial Correction Values**

Gain: 1.0051177  
 Offset: 0.07 °C

Reference Equipment	Serial #	Certificate #	Last Calibration Date	Next Calibration Due
Fluke / Hart Scientific 1502A / 5615	B41516/905885	2022012478	2022-06-10	2023-06-10
Vaisala HMP155	M2320114	2022019527	2022-09-06	2023-03-06

**Calibration Notes:**

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Calibrated By: Kerry Klimek

Date: 2022-10-18

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Approved By Quality Inspector:

Date: 2022-10-18

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MadgeTech, Inc. Calibration laboratory located at 6 Warner Road Warner, NH 03278 603-456-2011

The instrument identified was calibrated as a direct comparison to the reference standards listed which are traceable to the International System of Units (SI) through NIST or other National Metrology Institute and did not involve any sampling. Results reported on this certificate relate only to the serial number referenced at the time of calibration and do not imply certification of the device, process, system or technician by ANAB, NIST or any other federal agency. No allowance has been made for the stability of the device due to use, time, or wear. Such allowances would be made by the user. This certificate may not be reproduced, except in full, without written approval by MadgeTech, Inc.