CALIBRATED BY TRANSCAT CERTIFICATE OF CALIBRATION

Customer: ROMAN MELNYK TEST ACCOUNT
35 VANTAGE POINT DRIVE
ROCHESTER, NY 14624

PO Number: Test PO

Certificate/SO Number: 23-J5V1M-20-1 Revision 1

Manufacturer: Oakton Instruments
Model Number: CON 6+ (35604-00)
Description: Conductivity Meter
Serial Number: ABC123
ID: 12345

As-Found: Out Of Tolerance
As-Left: In Tolerance

Issue Date: Apr 02, 2021
Calibration Date: Apr 02, 2021
Due Date: Apr 02, 2022

Calibrated To: Manufacturer Specification
Calibration Procedure: 1-AC70135-0

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number. Any measurements on an accredited calibration not covered by that Lab's Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer's Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002) or NQA-1, as applicable. Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamentals and/or natural physical, or by the use of specified methods, consensus standards or ratio type measurements.

Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of metrological traceability.

A binary decision rule, utilizing simple acceptance, and simple rejection criteria is used for the determination of compliance. When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines established by ASME B89.7.3.1-2001 (R2019) as follows:
-The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as greater than the high limit and/or less than the low limit.
-Single measurement results in the acceptance zone are be identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT).
-When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT).

Uncertainties are reported with a coverage factor k=2, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

Notes:

The OOT readings were verified.

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As Found Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found	OOT	TUR
Temperature Measure (Sim)							
Temperature Measure	30kOhm	±(0.5 °C)	24.5	25.5	25.2 °C		
Conductivity Measure							
20 uS Range	100kOhm	±(1% FS)	9.80	10.20	10.22 µS	*	3.9 : 1
200 uS Range	10kOhm	±(1% FS)	98.0	102.0	102.3 µS	*	100.0 : 1
2000 uS Range	1kOhm	±(1% FS)	980	1020	1023 µS	*	100.0 : 1
20 mS Range	100Ohm	±(1% FS)	9.80	10.20	10.24 mS	*	15.4 : 1
200 mS Range	100.0mS	±(1% FS)	98.0	102.0	102.3 mS	*	100.0 : 1
Function Check - Probe Test							
Probe Test			P	P	P		

As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Left	OOT	TUR
Temperature Measure (Sim)							
Temperature Measure	30kOhm	±(0.5 °C)	24.5	25.5	25.3 °C		
Conductivity Measure							
20 uS Range	100kOhm	±(1% FS)	9.80	10.20	9.99 µS		3.9 : 1
200 uS Range	10kOhm	±(1% FS)	98.0	102.0	99.9 µS		100.0 : 1
2000 uS Range	1kOhm	±(1% FS)	980	1020	1001 µS		100.0 : 1
20 mS Range	100Ohm	±(1% FS)	9.80	10.20	10.02 mS		15.4 : 1
200 mS Range	100.0mS	±(1% FS)	98.0	102.0	100.1 mS		100.0 : 1
Function Check - Probe Test							
Probe Test			P	P	P		

Field not applicable.

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Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
144000	AccuMac Corporation	AM1760-12-S	Secondary SPRT	12-Apr-19	30-Apr-20	15-&144000-11-1	AF/AL
196000	Cole-Parmer	EW-35653-11	Conductivity Solution	21-Mar-19	1-May-21	23-&196000-3-1	AF/AL
377000	General Radio	1433-F	Decade Box, Resistance	29-Jan-19	31-Jan-20	23-&377000-2-1	AF/AL
55XX009	Fluke Corporation	5522A-SC1100	Multifunction Calibrator w/Scope Option	25-Jul-19	7-Aug-20	5-&55XX009-1-1	AF/AL
EXC-65173	Fluke	1575A	Super Thermometer	22-Feb-19	31-May-20	5-&EXC-65173-5-1	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset
70.85°F /21.58°C	35.10%	113900

Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit (calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Calibration Date	Indicates the date that the calibration was completed
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Due Date	Indicates the end of the calibration cycle as requested by the customer
Issue Date	Indicates the date that the calibration has passed the Data Review Process and was signed by an authorized signatory or the date that a revision to the original certificate has been issued
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOT	Out of Tolerance
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

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Calibrated At:
3251 Lewiston Street #12
Aurora, CO 80011

Facility Responsible:
3251 Lewiston Street #12
Aurora, CO 80011
800-828-1470

Calibrated By:
Electronically Signed By:
Steve Rollins

Steve Rollins	Apr 02, 2021
Calibration Technician	14:30:24 -04:00

Reviewed By:
Electronically Signed By:
Jared Payne for

Ryan Gohl	Apr 02, 2021
Lab Manager	15:47:54 -05:00

Unit Barcode: 0900B327634

Date Received: November 26, 2019
Service Level : R6
Revised On: Revised on April 02, 2021

Customer Number: 1-310110-000

Where is My Accreditation Logo?

What has changed?

There are new requirements for ISO 17025 accreditation as well as NIST's definition of measurement traceability, both of which require measurement uncertainties to be included in calibration reports for calibrations to be considered accredited/traceable as of March 31, 2021. These new ISO 17025 accreditation requirements stem from an evolution in Metrology and part of a global continuous improvement process.

CERTIFICATE OF CALIBRATION

Customer: Crumplemeyer Catering
123 Mulberry Lane
Bakerstown, PA 20802

PO Number: ########

ANAB AC-2489

Certificate/SO Number: 1-A1BCD-2-1 Revision 0

Manufacturer: Thermco Products, Inc
Model Number: ACC6093S
Description: Liquid-in-Glass Thermometer
Serial Number: 0123
ID: NONE

As-Found: NA
As-Left: In Tolerance
Issue Date: Oct 09, 2020
Calibration Date: Apr 09, 2021

Before 3/31/21

CERTIFICATE OF CALIBRATION

Customer: Crumplemeyer Catering
123 Mulberry Lane
Bakerstown, PA 20802

PO Number: ########

Certificate/SO Number: 1-B2EFG-2-1 Revision 0

Manufacturer: Thermco Products, Inc
Model Number: ACC6093S
Description: Liquid-in-Glass Thermometer
Serial Number: 0123
ID: NONE

As-Found: NA
As-Left: In Tolerance
Issue Date: Apr 09, 2021
Calibration Date: Oct 09, 2021

After 3/31/21

What does that mean to me?

It means that calibration reports that do not include measurement uncertainties are no longer allowed under ISO 17025 accreditation and, therefore, the logos must be removed. Prior to the mandated change (ISO 17025:2017 and also reinforced under ILAC P14:09/2020), the accredited calibration you received from Transcat allowed us to place the accreditation logos on the certificate. After March 31, 2021 that is no longer the case. If you need an accredited calibration, it will need to include measurement uncertainties and must be documented on your

Has my calibration changed?

The calibration process and results you see on your certificate have not changed. We follow the same processes we have in the past, the only difference now is the accreditation logo needed to be removed per these new requirements due to the lack of measurement uncertainties. Your calibration is still being performed to the same specifications by our accredited labs.

What if need to have the Accredited Logo on my certificate?

If you require your calibration upgraded to an Accredited Calibration with Uncertainties, we can help. Please contact one of our Calibration Service Specialists at **800-828-1470** and we can set you up in our system for future calibrations to be serviced to your quality requirements based on the new rules set by the governing bodies.

For additional resources and information about these changes, please visit us at transcat.com/accreditation-resource