

ENCLOSURE 11

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3

TECHNICAL SPECIFICATIONS (TS) CHANGES TS-431 AND TS-418 -
EXTENDED POWER UPRATE (EPU) - STEAM DRYER EVALUATIONS

CDI REPORT NO. 07-11NP, "DYNAMICS OF BWR STEAM DRYER COMPONENTS"

(NON-PROPRIETARY VERSION)

Attached is the **Non-Proprietary Version** of CDI Report No. 07-11,
"Dynamics of BWR Steam Dryer Components."

Dynamics of BWR Steam Dryer Components

Revision 0

Prepared for and by

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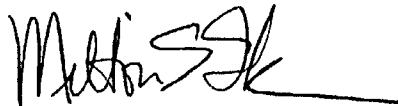
Continuum Dynamics, Inc.
34 Lexington Avenue
Ewing, NJ 08618

Approved by



Alan J. Bilanin

Reviewed by



Milton E. Teske

July 2007

Executive Summary

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Table of Contents

Section	Page
Executive Summary	i
Table of Contents	ii
1. Objective	1
2. Theory	2
3. Facility Description.....	5
4. Instrumentation	10
5. Test Matrix.....	11
6. Test Procedure	12
7. Test Results	13
8. Data Analysis	22
9. Conclusions.....	31
10. References.....	32
Appendix A.....	33

1. Objective

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Structural damping in the ANSYS finite element model is defined as 1% of critical damping for all frequencies, consistent with guidance given in NUREG-1.61 [1]. [[

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2. Theory

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3. Facility Description

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Figure 3. Schematic of the test rig.

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Figure 4. [[

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Figure 5. [[

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Figure 6. [[

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4. Instrumentation

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5. Test Matrix

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6. Test Procedure

For each test the instrumentation and test setup was first verified and recorded. [[

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7. Test Results

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Figure 7. [[
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Figure 8. [[
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Figure 9. [[

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Figure 10. [[

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Figure 10 (continued). [[

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Figure 11. [[⁽³⁾]]

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Figure 11 (continued). [[⁽³⁾]]

8. Data Analysis

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Figure 12. ⁽³⁾]]

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Table 5. [[

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Table 6. [[

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Figure 13. ⁽³⁾[[
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Figure 14. [[

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Table 7. [[

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9. Conclusions

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10. References

1. U.S. Nuclear Regulatory Commission. 1973. Regulatory Guide 1.61. Damping Values for Seismic Design of Nuclear Power Plants. October 1973.
2. Idel'chik, I. E. and E. Fried. 1989. Flow Resistance, A Design Guide for Engineers. Taylor and Francis: Washington, D.C. p. 260.
3. DeSanto, D. F. 1981. Added Mass and Hydrodynamic Damping of Perforated Plates Vibrating in Water. *Journal of Pressure Vessel Technology* 103: 176-182.
4. Shapiro, A. 1953. The Dynamics and Thermodynamics of Compressible Fluid Flow. The Ronald Press Company: New York. Vol. 1, p. 85.
5. Continuum Dynamics, Inc. 2007. Finite Element Model for Stress Assessment of Browns Ferry Nuclear Unit 1 Steam Dryer to 250 Hz. C.D.I. Report No. 07-05P (Proprietary).
6. Kayser, C.J. and R.L. Shambaugh. 1991. Discharge Coefficients for Compressible Flow Through Small-Diameter Orifices and Convergent Nozzles. *Chemical Engineering Science* 46:1697-1711.

Appendix A

Appendix A contains scanned copies of the certifications for the three instruments used in the perforated plate tests.

Accelerometer Certification

Continuum Dynamics, Inc. Accelerometer Calibration

Reason for service: determine relation between voltage output and acceleration

Type of cal: normal

As found condition: in tolerance

As left condition: in tolerance

Instrument: EGA-10-/Z2

Instrument Identification Number: 0265

Instrument Serial Number: 98G98B10-A14

Calibration Date: 6/13/07

Calibration Due: 6/13/2008


Note: Accelerometer was calibrated with AD627 instrumentation amplifier with 21.94 K Ω gain resistor. Accelerometer and AD627 were powered by 4.900V supply. Earth's gravitational field was used as a reference.

Acceleration	Voltage Output
g	volts
1 (arrow up)	3.054
0 (arrow right)	3.007
-1 (arrow down)	2.959
0 (arrow left)	3.002
1 (arrow up)	3.053
-1 (arrow down)	2.959

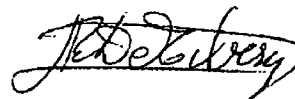
Instrument	Asset #	Cal Date	Due Date	Cal Cert
Multimeter	0379	7/11/06	7/11/07	3158858

Instrument used in the above calibration have traceability to NIST.



Performed by:



Verified by:



Pressure Transducer Certification

		Certificate No. 3262713	
1125 SW 20TH STREET AUSTIN, TX 78741			
CERTIFICATE OF CALIBRATION FOR CONTINUUM DYNAMICS, INC.			
Description: OMEGA ENGINEERING, 0-200 PSI, PRESSURE GAGE, AIR			
Serial No: NONE	Asset No: 0688	Simco ID: 20105-88	
Dept: NONE	PO No: 08-818		
Calibration Date: 10/12/07	Calibration Interval: 12 Months	Recall Date: 10/12/07	
Arrival Condition: MEETS MANUFACTURER'S SPEC'S.		Service: CALIBRATED TO MFR SPEC. & CLEAN	
Procedure: 856-CSCB REV 2		Relative Humidity: 68%	
Temperature: 68°F			
Standards Used:			
Type	Since ID	Due Date	Interval
DMM	17834*828	01/21/07	18 Mos
DMM	17834*850	11/21/07	18 Mos
			Accuracy
			DCV -1.06ppm
			DCV -0.0.1%
			Trace No.
			289448-C4
			289448-C4
Continued on next Page			
Duplicate Certificate		Page 1 of 2	
			

SILICON ELECTRONICS		Certificate No. 3262715			
2000 SOUTH HUNTERS ALLENTOWN, PA 18101					
CERTIFICATE OF CALIBRATION FOR CONTINUUM DYNAMICS, INC.					
Continued from Page 1					
Calibration Date:	Parameter	Nominal (STANDARD)	Measured Before	Measured After	Tolerance
	PRESSURE:				(+/-0.25mVFS)
	ZERO:	0 psf/0 mVdc	0.00	0.00	NULL METER
	20 N FS	40 psf/20 mV	20.02	20.02	+/-0.25mVdc
	40 N FS	80 psf/40 mV	40.00	40.00	+/-0.25mVdc
	60 N FS	120 psf/60 mV	60.00	60.00	+/-0.25mVdc
	80 N FS	160 psf/80 mV	70.00	70.00	+/-0.25mVdc
	100 N FS	200 psf/100 mV	80.00	80.00	+/-0.25mVdc
	120 N FS	240 psf/120 mV	90.00	90.00	+/-0.25mVdc
	140 N FS	280 psf/140 mV	100.00	100.00	+/-0.25mVdc
	160 N FS	320 psf/160 mV	110.00	110.00	+/-0.25mVdc
	180 N FS	360 psf/180 mV	120.00	120.00	+/-0.25mVdc
	20 N FS	40 psf/20 mV	20.02	20.02	+/-0.25mVdc
	0 N FS	0 psf/0 mVdc	0.00	0.00	+/-0.25mVdc
	(EXCITATION=	10 Vdc			

Work performed by: Robert J. Pollock Electronic Technician C (11214)	Reviewed by: Raymond Seip Driver
--	--

SILICON Electronics' quality management system conforms to ISO 9001:2000, ISO 9001:2008, and ANSI/ASQ Z39.1-1995. All calibrations are performed using instruments and standards traceable to the International System of Units (SI Units). Traceability is achieved through calibration by the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMIs), or by using actual physical constants, intrinsic standards or other calibration techniques. Instruments are calibrated with a test accuracy of 0.1 or greater, otherwise measurement uncertainty is identified and clearly stated during the calibration process. The information shown on this certificate applies only to the instrument identified above and may not be representative of all instruments within a plant from SILICON Electronics. There is no implied warranty that the instrument will maintain its specified tolerances during the calibration interval due to possible drift, environmental, or other factors beyond our control.

Date: 10/12/06

Duplicate Certificate Page 2 of 2

37



2125 SW 23TH STREET
ALLENTOWN, PA 18103

Certificate No. 3166776

CERTIFICATE OF CALIBRATION FOR CONTINUUM DYNAMICS, INC.

Description: OMEGA ENGINEERING, DP41-TC-A, Digital Thermometer

Serial No: 2210646

Asset No: 0101

Simco ID: 20136-87

Dept: NONE

PO No: 06-643

Calibration Date: 07/24/06	Calibration Interval: 12 Months	Recall Date: 07/24/07
Arrival Condition: MEETS MANUFACTURER'S SPEC'S.	Service: CALIBRATED & CLEANED	

Procedure: 635-0071 REV 0

Temperature: 73°F

Relative Humidity: 55%

Standards Used:

Type	Simco ID	Due Date	Int'l Mos	Acc/Unc	Trace No.
CALIBRATOR (SCOPE OPT)	17834-488	09/05/07	14	DCV +/-50ppm	269446-04

Calibration Data:

Parameter	Nominal	Measured Before	Measured After	Tolerance
TEMP ACCY.	32.0 F.	31.9	31.9	+/-0.3 F.
TEMP ACCY.	212.0 F.	212.0	212.0	+/-0.3 F.
TEMP ACCY.	500.0 F.	500.0	500.0	+/-0.3 F.
TEMP ACCY.	1000.0 F.	1000.2	1000.2	+/-0.3 F.
TEMP ACCY.	1400.0 F.	1399.9	1399.9	+/-0.3 F.

Work performed by:
Michael Sodi
Electronic Technician B (10996)

Reviewed by:
Raymond Seip
Driver

SIMCO Electronics' quality management system conforms to ISO 9001:2000, ISO/IEC 17025:1999, and ANSI/NCSL Z540-1-1994. All calibrations are performed using internationally recognized standards traceable to the International System of Units (SI Units). Traceability is achieved through calibrations by the National Institute of Standards and Technology (NIST), other National Measurement Institutes (NMIs), or by using natural physical constants, intrinsic standards or ratio calibration techniques. Instruments are calibrated with a test accuracy ratio of 4:1 or greater; otherwise measurement uncertainty analysis and/or guard bands are applied during the measurement process. The information shown on this certificate applies only to the instrument identified above and may not be reproduced, except in full, without prior written consent from SIMCO Electronics. There is no implied warranty that the instrument will maintain its specified tolerances during the calibration interval due to possible drift, environment, or other factors beyond our control.


Dated: 07/24/06

Duplicate Certificate

Page 1 of 1



Data Acquisition System

simco electronics		Certificate No. 3275966	
2125 SW 28TH STREET ALLENTOWN, PA 18103			
ON SITE CERTIFICATE OF CALIBRATION FOR CONTINUUM DYNAMICS, INC.			
Description: CYBER RESEARCH INC, CMF 3202DA, DATA AQISITION BOARD			
Serial No: SR0430000539		Asset No: 0604	Simco ID: 20136-151
Dept: NONE		PO No: 06-883	
Calibration Date: 10/12/06	Calibration Interval: 12 Months	Recall Date: 10/12/07	
Arrival Condition: MEETS MANUFACTURER'S SPEC'S.		Service: CALIBRATED & CLEANED	
Procedure: 635-0082 REV 5		Relative Humidity: 38%	
Temperature: 73°F			
Standards Used:		Intvl	
Type	Simco ID	Due Date	Mos
CALIBRATOR (SCOPE OPT)	17834*488	09/05/07	14
CALIBRATOR (SCOPE OPT)	17834*488	09/05/07	14
		Acc/Unc	Trace No.
		DCV +/-50ppm	269446-04
		Freq +/-2.5ppm	LORAN(USNO)
Detail Of Work Performed: PER CUSTOMER REQUEST CHANGED MODEL NUMBER			
RECEIVED NOV 27 2006 Continuum Dynamics, Inc.			
Continued on next Page			
Page 1 of 6			
			



2125 SW 28TH STREET
ALLENTOWN, PA 18103

Certificate No. 3275966

ON SITE
CERTIFICATE OF CALIBRATION
FOR
CONTINUUM DYNAMICS, INC.

Continued from Page 1

Calibration Data:

Parameter	Nominal	Measured Before	Measured After	Tolerance
A/D ACCY:	STD APPLIED			
-5.0 to 5.0	VOLTAGE			
Channel 0	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 0	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 0	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 0	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 0	5.0000	4.9990	4.9990	+/-1..2208mV
Channel 1	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 1	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 1	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 1	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 1	5.0000	4.9990	4.9990	+/-1..2208mV
Channel 2	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 2	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 2	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 2	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 2	5.0000	4.9993	4.9993	+/-1..2208mV
Channel 3	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 3	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 3	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 3	2.5000	2.5001	2.5001	+/-1..2208mV
Channel 3	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 4	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 4	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 4	0.0000	0.0001	0.0001	+/-1..2208mV
Channel 4	2.5000	2.5001	2.5001	+/-1..2208mV
Channel 4	5.0000	4.9994	4.9994	+/-1..2208mV
Channel 5	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 5	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 5	0.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 5	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 5	5.0000	4.9990	4.9990	+/-1..2208mV
Channel 6	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 6	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 6	0.0000	0.000	0.000	+/-1..2208mV
Channel 6	2.5000	2.5001	2.5001	+/-1..2208mV
Channel 6	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 7	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 7	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 7	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 7	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 7	5.0000	4.9992	4.9992	+/-1..2208mV

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2125 SW 28TH STREET
ALLENTOWN, PA 18103

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Continued from Page 2

Calibration Data:

Parameter	Nominal	Measured Before	Measured After	Tolerance
Channel 8	-5.0000	-4.9990	-4.9990	+/-1..2208mV
Channel 8	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 8	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 8	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 8	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 9	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 9	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 9	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 9	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 9	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 10	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 10	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 10	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 10	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 10	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 11	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 11	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 11	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 11	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 11	5.0000	4.9993	4.9993	+/-1..2208mV
Channel 12	-5.0000	-4.9990	-4.9990	+/-1..2208mV
Channel 12	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 12	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 12	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 12	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 13	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 13	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 13	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 13	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 13	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 14	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 14	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 14	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 14	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 14	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 15	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 15	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 15	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 15	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 15	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 16	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 16	-2.5000	-2.5001	-2.5001	+/-1..2208mV

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2125 SW 28TH STREET
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Continued from Page 3

Calibration Data:

<u>Parameter</u>	<u>Nominal</u>	<u>Measured Before</u>	<u>Measured After</u>	<u>Tolerance</u>
Channel 16	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 16	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 18	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 17	-5.0000	-4.9990	-4.9990	+/-1..2208mV
Channel 17	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 17	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 17	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 17	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 18	-5.0000	-4.9990	-4.9990	+/-1..2208mV
Channel 18	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 18	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 18	2.5000	2.5001	2.5001	+/-1..2208mV
Channel 18	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 19	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 19	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 19	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 19	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 19	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 20	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 20	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 20	0.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 20	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 20	5.0000	4.9993	4.9993	+/-1..2208mV
Channel 21	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 21	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 21	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 21	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 21	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 22	-5.0000	-4.9993	-4.9993	+/-1..2208mV
Channel 22	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 22	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 22	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 22	5.0000	4.9990	4.9990	+/-1..2208mV
Channel 23	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 23	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 23	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 23	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 23	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 24	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 24	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 24	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 24	2.5000	2.4999	2.4999	+/-1..2208mV

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2125 SW 28TH STREET
ALLENTOWN, PA 18103

Certificate No. 3275966

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FOR
CONTINUUM DYNAMICS, INC.

Continued from Page 4

Calibration Data:

Parameter	Nominal	Measured Before	Measured After	Tolerance
Channel 24	5.0000	4.9990	4.9990	+/-1..2208mV
Channel 25	-5.0000	-4.9994	-4.9994	+/-1..2208mV
Channel 25	-2.5000	-2.5001	-2.5001	+/-1..2208mV
Channel 25	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 25	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 25	5.0000	4.9993	4.9993	+/-1..2208mV
Channel 26	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 26	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 26	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 26	2.5000	2.5001	2.5001	+/-1..2208mV
Channel 26	5.0000	4.9992	4.9992	+/-1..2208mV
Channel 27	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 27	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 27	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 27	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 27	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 28	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 28	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 28	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 28	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 28	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 29	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 29	-2.5000	-2.4999	-2.4999	+/-1..2208mV
Channel 29	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 29	2.5000	2.5000	2.5000	+/-1..2208mV
Channel 29	5.0000	4.9991	4.9991	+/-1..2208mV
Channel 30	-5.0000	-4.9992	-4.9992	+/-1..2208mV
Channel 30	-2.5000	-2.5002	-2.5002	+/-1..2208mV
Channel 30	0.0000	0.0000	0.0000	+/-1..2208mV

Continued on next Page

Page 5 of 6





2125 SW 28TH STREET
ALLENTOWN, PA 18103

Certificate No. 3275966

ON SITE
CERTIFICATE OF CALIBRATION
FOR
CONTINUUM DYNAMICS, INC.

Continued from Page 5

Calibration Data:

Parameter	Nominal	Measured Before	Measured After	Tolerance
Channel 30	2.5000	2.4999	2.4999	+/-1..2208mV
Channel 30	5.0000	4.9994	4.9994	+/-1..2208mV
Channel 31	-5.0000	-4.9991	-4.9991	+/-1..2208mV
Channel 31	-2.5000	-2.5000	-2.5000	+/-1..2208mV
Channel 31	0.0000	0.0000	0.0000	+/-1..2208mV
Channel 31	2.5000	2.5002	2.5002	+/-1..2208mV
Channel 31	5.0000	4.9992	4.9992	+/-1..2208mV

Work performed by:
Martin LaGrange
Electronic Technician C (11255)

Reviewed by:
Annette Singer
Mechanical Technician B



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Dated: 10/12/06 correction issued as of 11/20/06

