

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 1 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

5211 Industrial Road
Fort Wayne, IN 46825-5152
Mr. Chris Moritz
Phone: 260-484-2580 Fax: 260-482-6805
E-Mail: chris@pyromation.com
URL: <http://www.pyromation.com>

NVLAP Code: 20/A01

ANSI/NCSL Z540-1-1994; Part 1

Compliant

DC/LOW FREQUENCY

NVLAP Code: 20/E05
DC Resistance

<i>Range in ohms</i>	<i>Best Uncertainty (\pm) in ohms^{note 1}</i>	<i>Remarks</i>
1	0.006	Simulated
10	0.007	Simulated
100	0.018	Simulated
1 k	0.122	Simulated
10 k	4	Simulated
100 k	35	Simulated
1 M	347	Simulated
10 M	4 k	Simulated

September 30, 2005

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 2 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

100 M	35 k	Simulated
10	0.0008	Measured
100	0.0075	Measured
1 k	0.06	Measured
10 k	0.6	Measured
100 k	8.3	Measured
1 M	85	Measured
10 M	4.7 k	Measured
100 M	174 k	Measured

NVLAP Code: 20/E05

DC Current

Range	Best Uncertainty (\pm)^{note 1}	Remarks
0 to 100 mA	0.005 mA	Simulated
10 mA	0.006 mA	Measured
100 mA	0.063 mA	Measured
1 A	0.97 mA	Measured

September 30, 2005

Effective through

For the National Institute of Standards and Technology

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 3 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

3 A	4.2 mA	Measured
Service provided at customer location.		
0 to 24 mA	0.05 mA	Simulated
0 to 24 mA	0.06 mA	Measured

NVLAP Code: 20/E06

DC Voltage

Range	Best Uncertainty (\pm) in $mV^{note 1}$	Remarks
0 to 100 mV	0.003	Simulated
100 mV	0.0058	Measured
1 V	0.031	Measured
10 V	0.32	Measured
100 V	4.6	Measured
1000 V	54	Measured

September 30, 2005

Effective through

A handwritten signature in black ink, appearing to read 'William R. Miller', is written over a horizontal line.

For the National Institute of Standards and Technology

Scope of Accreditation



CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

Service provided at customer location.

0 to 100 mV	0.09	Simulated
0 to 90 mV	0.06	Measured

THERMODYNAMICS

NVLAP Code: 20/T07

Resistance Thermometry

Range in °C	Best Uncertainty (\pm) ^{note 1}	Min. Overall Length	Remarks
-196	0.03°C	12 in	Comparison Measurement against PRT
-75	0.03°C	12 in	Comparison Measurement against PRT
-40 to 230	0.04°C	6 in	Comparison Measurement against PRT
230 to 420	0.04°C	18 in	Comparison Measurement against PRT
420 to 660	0.45°C	18 in	Comparison Measurement against S Thermocouple
-196	0.013°C	12 in	Comparison Measurement against SPRT

September 30, 2005

Effective through

For the National Institute of Standards and Technology

Scope of Accreditation



CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

-75	0.014°C	12 in	Comparison Measurement against SPRT
-40 to 230	0.026°C	6 in	Comparison Measurement against SPRT
230 to 420	0.026°C	18 in	Comparison Measurement against SPRT
0.01	2.8 mk	18 in	Fixed Point (TPW)
29.7646	3.5 mk	12 in	Fixed Point (MPGa)

NVLAP Code: 20/T07

Resistance Thermometry/Digital/Analog Temperature Indicators

<i>Range in °C</i>	<i>Best Uncertainty (±) in °C^{note 1}</i>	<i>Type</i>	<i>Remarks</i>
-200 to 660	0.02	PT100	Simulated
-270 to 1000	0.06	E	Simulated
-210 to 1200	0.07	J	Simulated
-270 to 1372	0.08	K	Simulated
-270 to 1300	0.12	N	Simulated
-270 to 400	0.08	T	Simulated
0 to 1820	0.28	B	Simulated

September 30, 2005

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 6 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

-50 to 1768	0.46	R	Simulated
-50 to 1768	0.43	S	Simulated
-200 to 660	0.02	PT100	Measured
-270 to 1000	0.04	E	Measured
-210 to 1200	0.05	J	Measured
-270 to 1372	0.05	K	Measured
-270 to 1300	0.08	N	Measured
-270 to 400	0.05	T	Measured
0 to 1820	0.04	B	Measured
-50 to 1768	0.19	R	Measured
-50 to 1768	0.11	S	Measured

Service provided at customer location

-270 to 1000	2.0	E	Measured/Simulated
-210 to 1200	2.2	J	Measured/Simulated
-270 to 1372	2.3	K	Measured/Simulated
-270 to 1300	2.6	N	Measured/Simulated

September 30, 2005

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 7 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

-270 to 400	2.1	T	Measured/Simulated
0 to 1820	2.7	B	Measured/Simulated
-50 to 1768	3.2	R	Measured/Simulated
-50 to 1786	3.2	S	Measured/Simulated
-150 to 550	1.1	PT1002W	Measured/Simulated
-150 to 550	1.0	PT1003W	Measured/Simulated
-150 to 550	0.7	PT1004W	Measured/Simulated

NVLAP Code: 20/T08
Thermocouples - Type E

<i>Range in °C</i>	<i>Best Uncertainty (±) °C^{note 1}</i>	<i>Min. Overall Length</i>	<i>Remarks</i>
-196	0.11	12 in	Comparison Measurement against PRT
-75	0.07	12 in	Comparison Measurement against PRT
-40 to 230	0.07	6 in	Comparison Measurement against PRT
230 to 420	0.07	18 in	Comparison Measurement against PRT
420 to 1000	0.67	20 in	Comparison Measurement against S Thermocouple

September 30, 2005

Effective through

For the National Institute of Standards and Technology

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 8 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

Thermocouples - Type J

-196	0.10	12 in	Comparison Measurement against PRT
-75	0.07	12 in	Comparison Measurement against PRT
-40 to 230	0.08	6 in	Comparison Measurement against PRT
230 to 420	0.08	18 in	Comparison Measurement against PRT
420 to 1100	0.68	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.90	20 in	Comparison Measurement against S Thermocouple

Thermocouples - Type K

-196	0.14	12 in	Comparison Measurement against PRT
-75	0.09	12 in	Comparison Measurement against PRT
-40 to 230	0.08	6 in	Comparison Measurement against PRT

September 30, 2005

Effective through



For the National Institute of Standards and Technology

Scope of Accreditation



CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

230 to 420	0.08	18 in	Comparison Measurement against PRT
420 to 1100	0.68	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.90	20 in	Comparison Measurement against S Thermocouple
1200 to 1372	1.53	30 in	Comparison Measurement against B Thermocouple
Thermocouples - Type N			
-196	0.20	12 in	Comparison Measurement against PRT
-75	0.12	12 in	Comparison Measurement against PRT
-40 to 230	0.12	6 in	Comparison Measurement against PRT
230 to 420	0.12	18 in	Comparison Measurement against PRT
420 to 1100	0.68	20 in	Comparison Measurement against S Thermocouple

September 30, 2005

Effective through

For the National Institute of Standards and Technology

Scope of Accreditation



CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

1100 to 1200	0.91	20 in	Comparison Measurement against Thermocouple
1200 to 1300	1.21	30 in	Comparison Measurement against B Thermocouple
Thermocouples - Type T			
-196	0.17	12 in	Comparison Measurement against PRT
-75	0.09	12 in	Comparison Measurement against PRT
-40 to 230	0.11	6 in	Comparison Measurement against PRT
230 to 420	0.11	18 in	Comparison Measurement against PRT
Thermocouples - Type B			
200 to 420	1.00	18 in	Comparison Measurement against PRT
420 to 1100	0.84	20 in	Comparison Measurement against S Thermocouple

September 30, 2005

Effective through



For the National Institute of Standards and Technology

Scope of Accreditation



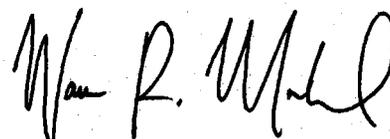
CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

1100 to 1200	0.92	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.72	30 in	Comparison Measurement against B Thermocouple
Thermocouples - Type R			
-40 to 230	0.44	6 in	Comparison Measurement against PRT
230 to 420	0.44	18 in	Comparison Measurement against PRT
420 to 1100	0.71	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.93	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.73	30 in	Comparison Measurement against B Thermocouple
Thermocouples - Type S			
-40 to 230	0.42	6 in	Comparison Measurement against PRT
230 to 420	0.42	18 in	Comparison Measurement against PRT

September 30, 2005



Effective through

For the National Institute of Standards and Technology

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation



Page 12 of 12

CALIBRATION LABORATORIES

NVLAP LAB CODE 200502-0

PYROMATION INC. METROLOGY LABORATORY

420 to 1100	0.71	20 in	Comparison Measurement against S Thermocouple
1100 to 1200	0.93	20 in	Comparison Measurement against S Thermocouple
1200 to 1450	1.72	30 in	Comparison Measurement against B Thermocouple

1. Represents an expanded uncertainty using a coverage factor, $k=2$.

September 30, 2005

Effective through

A handwritten signature in black ink, appearing to read 'William R. Miller'.

For the National Institute of Standards and Technology