

Site and Calibration Information

Location : TNP Environment Co.,Ltd. **Date** : 20-Oct-23
Serial : TNP-F-01-TSP **Tech** : Mr.Nattachai Triprawat

Site Conditions


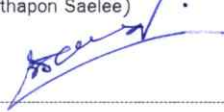
Barometric Pressure (mmHg) : 759	Corrected Pressure (mmHg) : 759
Temperature (deg C) : 30	Temperature (deg K) : 303
Average Press.(mmHg) : 759	Corrected Average (mmHg) : 759
Average Temp.(deg C) : 30	Average Temp.(deg K) : 303

Calibration Office

Make : Tish Environment **Qstd Slope** : 1.69297
Model : TE-5028A **Qstd Intercept** : -0.02707
Serial : 3945 **Date Certified** : October 1, 2023

Calibration Information

Plate or	H2O	Qstd	I	IC	Linear Regression	
Test #	(in)	(m3/min)	(Chart)	(Corrected)	Slope	: 34.84626
1	7.20	1.587	56.00	56.49	Intercept	: 0.434914
2	5.50	1.401	49.00	48.56	Corr. Coeff	: 0.9928
3	4.50	1.258	44.00	44.60		
4	3.40	1.111	38.00	37.66	# of Observations	: 5
5	2.40	0.923	34.00	33.70		

Calibrate By : 
(Mr.Nathapon Saelee)
Approved By : 
(Mr.Nattachai Triprawat)

Site and Calibration Information

Location	: TNP Environment Co.,Ltd.	Date	: 20-Oct-23
Serial	: TNP-F-02-TSP	Tech	: Mr.Nattachai Triprawat

Site Conditions


Barometric Pressure (mmHg)	: 759	Corrected Pressure (mmHg)	: 759
Temperature (deg C)	: 30	Temperature (deg K)	: 303
Average Press.(mmHg)	: 759	Corrected Average (mmHg)	: 759
Average Temp.(deg C)	: 30	Average Temp.(deg K)	: 303

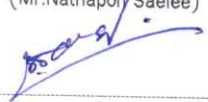
Calibration Orifice

Make	: Tish Environment	Qstd Slope	: 1.69297
Model	: TE-5028A	Qstd Intercept	: -0.02707
Serial	: 3945	Date Certified	: October 1, 2023

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (Chart)	IC (Corrected)	Linear Regression
1	7.30	1.598	58.00	57.48	Slope : 33.9984
2	5.60	1.401	54.00	53.52	Intercept : 4.50629
3	4.50	1.258	49.00	47.57	Corr. Coeff : 0.9908
4	3.50	1.095	43.00	42.62	# of Observations : 5
5	2.40	0.923	35.00	34.69	

Calibrate By : 
(Mr.Nathapon Saelee)

Approved By : 
(Mr.Nattachai Triprawat)

Site and Calibration Information

Location	: TNP Environment Co.,Ltd.	Date	: 20-Oct-23
Serial	: TNP-F-03-TSP	Tech	: Mr.Nattachai Triprawat

Site Conditions



Barometric Pressure (mmHg)	: 759	Corrected Pressure (mmHg)	: 759
Temperature (deg C)	: 30	Temperature (deg K)	: 303
Average Press.(mmHg)	: 759	Corrected Average (mmHg)	: 759
Average Temp.(deg C)	: 30	Average Temp.(deg K)	: 303

Calibration Orifice

Make	: Tish Environment	Qstd Slope	: 1.69297
Model	: TE-5028A	Qstd Intercept	: -0.02071
Serial	: 3945	Date Certified	: October 1, 2023

Calibration Information

Plate or Test #	H2O (in)	Qstd (m3/min)	I (Chart)	IC (Corrected)	Linear Regression	
1	7.60	1.637	59.00	59.46	Slope	: 30.5480
2	5.80	1.422	54.00	53.52	Intercept	: 9.7476
3	4.60	1.268	49.00	48.56	Corr. Coeff	: 0.9996
4	3.50	1.107	44.00	43.61	# of Observations	: 5
5	2.40	0.919	38.00	37.66		

Calibrate By	:	
		(Mr.Nathapon.Saelee)
Approved By	:	
		(Mr.Nattachai Triprawat)

Site Information

Location : TNP Environment Co.,Ltd.

Date : 26-Oct-23

Serial : TNP-F-01-PM10

Tech : Mr.Nattachai Triprawat

Site Conditions

Barometric Pressure (mmHg) : 760

Corrected Pressure (mmHg) : 760

Temperature (deg C) : 29

Temperature (deg K) : 302

Average Press.(mmHg) : 760

Corrected Average (mmHg) : 760

Average Temp.(deg C) : 29

Average Temp.(deg K) : 302

Calibration Orifice

Make : Tish Environment

Slope : 1.69297

Model : TE-5028A

Intercept : -0.02707

Serial : 3945

Calibration Due Date : October 1, 2023

Calibration Data

Plate or Test #	H2O (in)	Qa (m3/min)	I (Chart)	IC (Corrected)	Linear Regression	
1	6.70	0.973	56.00	35.30	Slope	: 40.6720
2	5.50	0.889	51.00	32.15	Intercept	: -4.2291
3	4.60	0.815	46.00	29.00	Corr. Coeff	: 0.9984
4	3.60	0.722	39.00	24.58	# of Observations	: 5
5	2.40	0.593	34.00	20.17		

Calibrate By :

(Mr.Nathapon Saelee)

Approved By :

(Mr.Nattachai Triprawat)

Site Information

Location : TNP Environment Co.,Ltd.

Date : 26-Oct-23

Serial : TNP-F-02-PM10

Tech : Mr.Nattachai Triprawat

Site Conditions

Barometric Pressure (mmHg) : 760

Corrected Pressure (mmHg)

: 760

Temperature (deg C) : 29

Temperature (deg K)

: 302

Average Press.(mmHg) : 760

Corrected Average (mmHg)

: 760

Average Temp.(deg C) : 29

Average Temp.(deg K)

: 302

Calibration Orifice

Make : Tish Environment

Slope : 1.69297

Model : TE-5028A

Intercept : -0.02707

Serial : 3945

Calibration Due Date : October 1, 2023

Calibration Data

Plate or Test #	H2O (in)	Qa (m3/min)	I (Chart)	IC (Corrected)	Linear Regression	
1	7.00	1.001	57.00	35.93	Slope	: 42.4302
2	5.70	0.905	52.00	32.78	Intercept	: -6.4391
3	4.60	0.815	44.00	27.74	Corr. Coeff	: 0.9910
4	3.80	0.742	38.00	23.95	# of Observations	: 5
5	2.80	0.639	34.00	21.43		

Calibrate By

: 

(Mr.Nathapon Saelee)

Approved By

: 

(Mr.Nattachai Triprawat)

Site Information

Location : TNP Environment Co.,Ltd.

Date : 26-Oct-23

Serial : TNP-F-03-PM10

Tech : Mr.Nattachai Triprawat

Site Conditions

Barometric Pressure (mmHg) : 760

Corrected Pressure (mmHg)

: 760

Temperature (deg C) : 29

Temperature (deg K)

: 302

Average Press.(mmHg) : 760

Corrected Average (mmHg)

: 760

Average Temp.(deg C) : 29

Average Temp.(deg K)

: 302

Calibration Orifice

Make : Tish Environment

Slope : 1.69297

Model : TE-5028A

Intercept : -0.02707

Serial : 3945

Calibration Due Date : October 1, 2023

Calibration Data

Plate or Test #	H2O (in)	Qa (m3/min)	I (Chart)	IC (Corrected)	Linear Regression	
1	6.80	0.987	57.00	35.93	Slope	: 49.2516
2	5.90	0.920	50.00	31.52	Intercept	: -13.1842
3	5.00	0.849	45.00	28.37	Corr. Coeff	: 0.9963
4	3.80	0.742	38.00	23.95	# of Observations	: 5
5	3.20	0.682	33.00	20.17		

Calibrate By :

(Mr.Nathapon Saelee)

Approved By :

(Mr.Nattachai Triprawat)

Analyzer Performance Test

Calibrated Date: 31 October 2023

Instruments Information

Analyzer Type : CO Analyzer
Model : 48C

Manufacturer : Thermo Environmental
Serial Number : 48CHL-67713-358

Calibrator Unit

Dilutor Model : Dasibi Model 5008
Serial Number : 705
ZERO AIR Generator : API MODEL 701
Serial Number : 1924

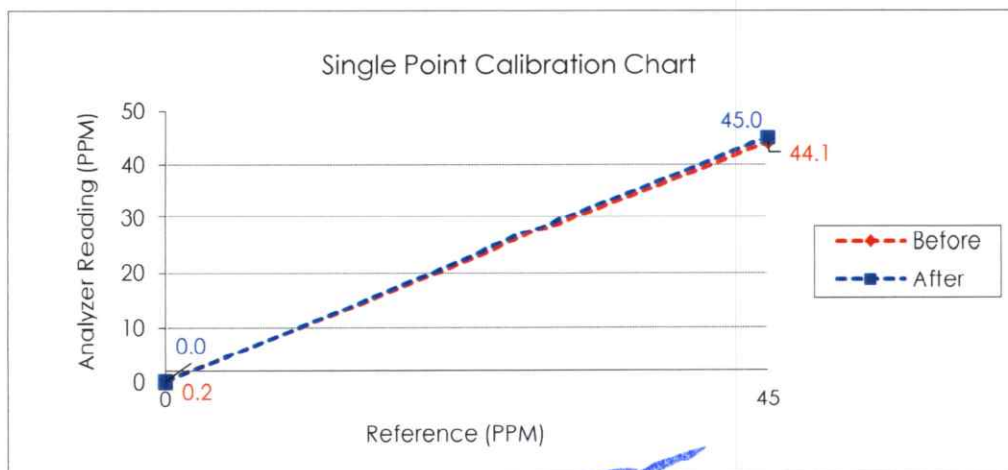
Standard Gas Concentration

Nitric Oxide (NO) 55.47 PPM
Sulphur Dioxide (SO₂) 55.11 PPM
Carbon Monoxide (CO) 4,535 PPM
Cylinder number EB0129027
Expire Date: 29 Oct. 2027

Environment : Temperature 25.5 °C Humidity: 51 %RH

Calibration Report

	Zero			Span		
	Reference (PPM)	Reading (PPM)	Drift (PPM)	Reference (PPM)	Reading (PPM)	Drift%
Before	0.0	0.2	0.2	45.0	44.1	-2.0
After	0.0	0.0	0.0	45.0	45.0	0.0



Calibrate By :

กิตติศักดิ์ จันทะวงษ์วัฒนา

MR. KITTISAK JANSANGWATTANA

Approve by :

MR. PASAGORN SAMOL

MR. PASAGORN SAMOL

บริษัท เอ็นไวร์ เซอร์วิส จำกัด
ENVIR SERVICE CO., LTD.

ENVIR SERVICE CO., LTD.

42 Ramintra 14 Yeak 9, Tha Raeng, Bang Khen, Bangkok 10230
Tel. 02-9435814-5 Fax. 02-9438201 www.envirservice.co.th

Analyzer Performance Test

Calibrated Date: 18 September 2023

Instruments Information

Analyzer Type : NO-NO₂-NO_x Analyzer

Model : 42C

Manufacturer : Thermo Environmental

Serial Number : 0413406269

Calibrator Unit

Dilutor Model : Dasibi Model 5008

Serial Number : 705

ZERO AIR Generator : API MODEL 701

Serial Number : 1924

Standard Gas Concentration

Nitric Oxide (NO) 55.47 PPM

Sulphur Dioxide (SO₂) 55.11 PPM

Carbon Monoxide (CO) 4,535 PPM

Cylinder number EB0129027

Expire Date: 29 Oct. 2027

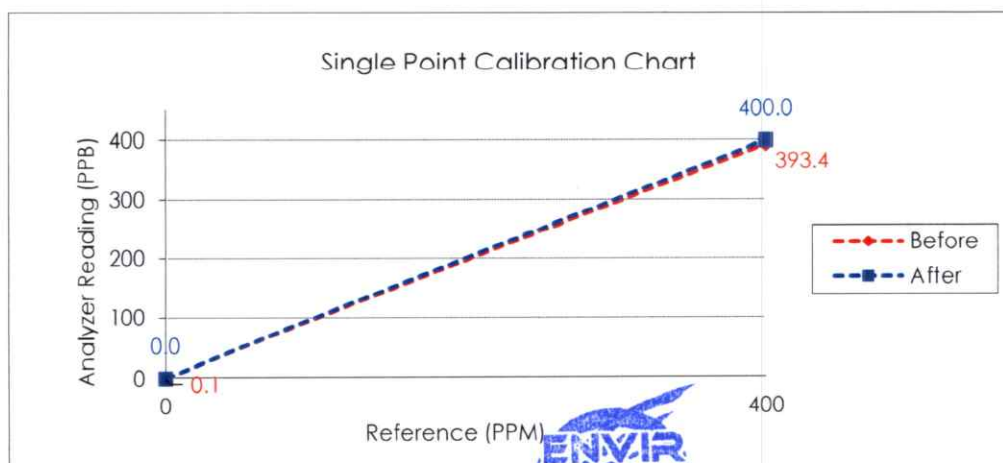
Environment : Temperature 25.5 °C Humidity: 51 %RH

Calibration Report (Before Adjust)

Status	Zero			Span		
	Reference (PPB)	Reading (PPB)	Drift (PPB)	Reference (PPB)	Reading (PPB)	Drift%
NO	0.0	0.1	0.1	400.0	393.4	-1.7
NO _x	0.0	0.0	0.0	400.0	394.6	-1.3

Calibration Report (After Adjust)

Status	Zero			Span		
	Reference (PPB)	Reading (PPB)	Drift (PPB)	Reference (PPB)	Reading (PPB)	Drift%
NO	0.0	0.1	0.1	400.0	400.0	0.0
NO _x	0.0	0.0	0.0	400.0	400.0	0.0



Calibrate By : 

MR. KITTISAK JANSANGWATTANA

Approve by : 

MR. PASAGORN SAMOL

บริษัท เอ็นไวร์ เซอร์วิส จำกัด
ENVIR SERVICE CO., LTD.

Analyzer Performance Test

Calibrated Date: 31 October 2023

Instruments Information

Analyzer Type : SO2 Analyzer
Model : 43C

Manufacturer : Thermo Environmental
Serial Number : 0327402325

Calibrator Unit

Dilutor Model : Dasibi Model 5008
Serial Number : 705
ZERO AIR Generator : API MODEL 701
Serial Number : 1924

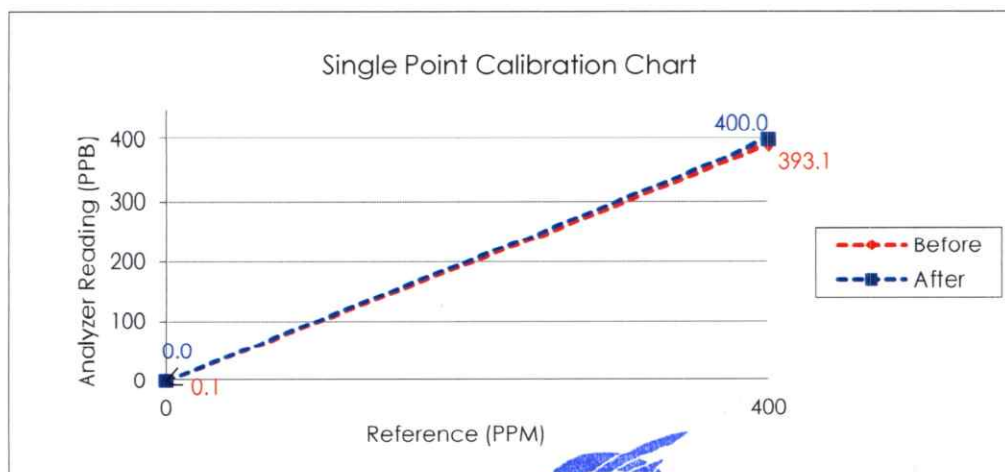
Standard Gas Concentration

Nitric Oxide (NO) 55.47 PPM
Sulphur Dioxide (SO2) 55.11 PPM
Carbon Monoxide (CO) 4,535 PPM
Cylinder number EB0129027
Expire Date: 29 Oct. 2027

Environment : Temperature 25.5 °C Humidity: 51 %RH

Calibration Report

Status	Zero			Span		
	Reference (PPB)	Reading (PPB)	Drift (PPB)	Reference (PPB)	Reading (PPB)	Drift%
Before	0.0	0.1	0.1	400.0	393.1	-1.7
After	0.0	0.0	0.0	400.0	400.0	0.0



Calibrate By :

กิตติศักดิ์ จันทะวงษ์

MR. KITTISAK JANSANGWATTANA

Approve by :

MR. PASAGORN SAMOL

MR. PASAGORN SAMOL



Certificate of Calibration

Certificate Number : SPR23010299-1

Page : 1 of 3

Customer : TNP ENVIRONMENT CO.,LTD.

332/173 Moo.3, Bang Rak Phatthana, Bang Bua Thong, Nonthaburi
11110

Equipment Name : Sound Level Meter

Manufacturer : Pulsar

Model : 44

Serial Number : PN2352

ID. Number : TNP-F-S21

Environmental Conditions

Ambient Temperature : $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Relative Humidity : $50\% \pm 15\%$

Location of Calibration : In-Lab

Calibration Procedure : SP-CPE-04-01

Received Date : 23 Jan 2023

Calibration Date : 26 Jan 2023

Recommend Due Date : 26 Jan 2024

Date of Issue : 27 Jan 2023

Method of Calibration

This certifies that the above instrument was calibrated in compliance with the calibration system requirement of ISO/IEC 17025:2017 in accordance with reference procedure. Standards used to perform this calibration are certified by to NIST or equivalent, National metrology institute, Natural physical constants, consensus standards. The result reported herein apply only to the calibration of the item described above as received. Our decision rule is to contact the customer if the item pass and fail calibration when the results include the uncertainties and the customer must determine if the results meets their needs.

All calibrations are performed within manufacture's specifications. The calibration certificate shall not be reproduced except in full, without written approval of SP Metrology System (Thailand).

Calibrated by : Mr.Karoon Pengsalung

Calibration Officer

Approved by :

(Mr.Nirut Loha)

Authorized Signatory



Calibration Report

Certificate Number : SPR23010299-1

Page : 2 of 3

Reference Standards

Equipment Name	Model	Serial No.	Certificate No.	Due. Date
Sound Level Calibrator	SC-942	B014059	EEL.BP. 34/1264	22 Dec 2023

Traceability

This certification is traceable to the International System of Unit maintained at :

TISTR - Thailand Institute of Scientific and Technological Research



Result of Calibration

Certificate No. : SPR23010299-1

Page : 3 of 3

Range : 94 to 114 dB

Function : @1kHz

Select A

Unit : dB

Standard Setting	UUC Reading		Error		Uncertainty (±)
	Fast	Slow	Fast	Slow	
94	95.6	95.6	1.6	1.6	0.15
114	115.6	115.6	1.6	1.6	0.15

Note:

The result of calibration was found accurate as show on date and place of calibration only.
This Certificate is not certified for any commercial transaction.

Measurement Uncertainty

The reported uncertainty of measurement is the expanded uncertainty obtained by multiplying the standard uncertainty with the coverage factor $k = 2.00$, providing a level of confidence approximately 95%.

- End of Certificate -



Certificate of Calibration

Certificate Number : SPR23010299-2

Page : 1 of 3

Customer : TNP ENVIRONMENT CO.,LTD.

332/173 Moo.3, Bang Rak Phatthana, Bang Bua Thong, Nonthaburi
11110

Equipment Name : Sound Level Meter

Manufacturer : Pulsar

Model : 44

Serial Number : PN2351

ID. Number : TNP-F-S22

Environmental Conditions

Ambient Temperature : $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Relative Humidity : $50\% \pm 15\%$

Location of Calibration : In-Lab

Calibration Procedure : SP-CPE-04-01

Received Date : 23 Jan 2023

Calibration Date : 26 Jan 2023

Recommend Due Date : 26 Jan 2024

Date of Issue : 27 Jan 2023

Method of Calibration

This certifies that the above instrument was calibrated in compliance with the calibration system requirement of ISO/IEC 17025:2017 in accordance with reference procedure. Standards used to perform this calibration are certified by to NIST or equivalent, National metrology institute, Natural physical constants, consensus standards. The result reported herein apply only to the calibration of the item described above as received. Our decision rule is to contact the customer if the item pass and fail calibration when the results include the uncertainties and the customer must determine if the results meets their needs.

All calibrations are performed within manufacture's specifications. The calibration certificate shall not be reproduced except in full, without written approval of SP Metrology System (Thailand).

Calibrated by : Mr. Karoon Pengsalung

Calibration Officer

Approved by :

(Mr. Nirut Loha)

Authorized Signatory



Calibration Report

Certificate Number : SPR23010299-2

Page : 2 of 3

Reference Standards

Equipment Name	Model	Serial No.	Certificate No.	Due. Date
Sound Level Calibrator	SC-942	B014059	EEL.BP. 34/1264	22 Dec 2023

Traceability

This certification is traceable to the International System of Unit maintained at :

TISTR - Thailand Institute of Scientific and Technological Research



Result of Calibration

Certificate No. : SPR23010299-2

Page : 3 of 3

Range : 94 to 114 dB

Function : @1kHz

Select A

Unit : dB

Standard Setting	UUC Reading		Error		Uncertainty (±)
	Fast	Slow	Fast	Slow	
94	94.9	94.9	0.9	0.9	0.15
114	114.8	114.8	0.8	0.8	0.15

Note:

The result of calibration was found accurate as show on date and place of calibration only.
This Certificate is not certified for any commercial transaction.

Measurement Uncertainty

The reported uncertainty of measurement is the expanded uncertainty obtained by multiplying the standard uncertainty with the coverage factor $k = 2.00$, providing a level of confidence approximately 95%.

- End of Certificate -



Certificate of Calibration

Certificate Number : SPR23010301-1

Page : 1 of 4

Customer : TNP ENVIRONMENT CO.,LTD.

332/173 Moo.3, Bang Rak Phatthana, Bang Bua Thong, Nonthaburi
11110

Equipment Name : Vibration Meter

Manufacturer : Instantel

Model : 721A2501/721A2901

Serial Number : UM13538

ID. Number : TNP-F-V01

Environmental Conditions

Ambient Temperature : $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Received Date : 23 Jan 2023

Relative Humidity : $50\% \pm 15\%$

Calibration Date : 26 Jan 2023

Location of Calibration : In-Lab

Recommend Due Date : 26 Jan 2024

Calibration Procedure : In-House Method

Date of Issue : 27 Jan 2023

Method of Calibration


This certifies that the above instrument was calibrated in compliance with the calibration system requirement of ISO/IEC 17025:2017 in accordance with reference procedure. Standards used to perform this calibration are certified by to NIST or equivalent, National metrology institute, Natural physical constants, consensus standards. The result reported herein apply only to the calibration of the item described above as received. Our decision rule is to contact the customer if the item pass and fail calibration when the results include the uncertainties and the customer must determine if the results meets their needs.

All calibrations are performed within manufacture's specifications. The calibration certificate shall not be reproduced except in full, without written approval of SP Metrology System (Thailand).

Calibrated by : Mr. Munin Khumpum

Calibration Officer

Approved by :


(Mr. Prayoon Topart)

Authorized Signatory



Calibration Report

Certificate Number : SPR23010301-1

Page : 2 of 4

Reference Standards

Equipment Name	Model	Serial No.	Certificate No.	Due. Date
Vibration Calibrator	VC-02	2007014	AV-0050-20	10 Dec 2023

Traceability

This certification is traceable to the International System of Unit maintained at :
NIMT - The National Institute of Metrology, Thailand.



Result of Calibration

Certificate No. : SPR23010301-1

Page : 3 of 4

Results of Calibration : (*) Without () After Adjustment

Geophone P/N 721A3301 Functional Performance Test @160Hz

Function	STD Reading	UUC. Reading	Error	Uncertainty (±)
Velocity (mm/s)	5.002	5.007	0.005	0.059

Frequency Response Performance Test @ 5 mm/s

Unit : mm/s

Frequency (Hz)	STD Reading	UUC. Reading	Error	Uncertainty (±)
10.0	5.006	5.015	0.009	0.058
20.0	5.005	5.012	0.007	0.058
50.0	5.004	5.009	0.005	0.058
80.0	5.003	5.011	0.008	0.058
100.0	5.003	5.009	0.006	0.058
160.0	5.004	5.011	0.007	0.058
200.0	5.005	5.012	0.007	0.058



Result of Calibration

Certificate No. : SPR23010301-1

Page : 4 of 4

Results of Calibration : (*) Without () After Adjustment

Linearity Performance Test

Unit : m/s^2

Frequency (Hz)	STD Reading	UUC. Reading	Error	Uncertainty (\pm)
160.0	0.501	0.504	0.003	0.0060
160.0	1.001	1.003	0.002	0.012
160.0	1.502	1.508	0.006	0.017
160.0	2.001	2.008	0.007	0.023
160.0	3.002	3.011	0.009	0.035
160.0	5.001	5.011	0.010	0.058

Note:

The result of calibration was found accurate as show on date and place of calibration only.
This Certificate is not certified for any commercial transaction.

Measurement Uncertainty

The reported uncertainty of measurement is the expanded uncertainty obtained by multiplying the standard uncertainty with the coverage factor $k = 2$, providing a level of confidence approximately 95%

- End of Certificate -



Certificate of Calibration

Certificate Number : SPR23010301-2

Page : 1 of 4

Customer : TNP ENVIRONMENT CO.,LTD.

332/173 Moo.3, Bang Rak Phatthana, Bang Bua Thong, Nonthaburi
11110

Equipment Name : Vibration Meter

Manufacturer : Instantel

Model : 721A2601/721A3301

Serial Number : UM15019/UM16053

ID. Number : TNP-F-V03

Environmental Conditions

Ambient Temperature : $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$

Received Date : 23 Jan 2023

Relative Humidity : $50\% \pm 15\%$

Calibration Date : 26 Jan 2023

Location of Calibration : In-Lab

Recommend Due Date : 26 Jan 2024

Calibration Procedure : In-House Method

Date of Issue : 27 Jan 2023

Method of Calibration

This certifies that the above instrument was calibrated in compliance with the calibration system requirement of ISO/IEC 17025:2017 in accordance with reference procedure. Standards used to perform this calibration are certified by to NIST or equivalent, National metrology institute, Natural physical constants, consensus standards. The result reported herein apply only to the calibration of the item described above as received. Our decision rule is to contact the customer if the item pass and fail calibration when the results include the uncertainties and the customer must determine if the results meets their needs.

All calibrations are performed within manufacture's specifications. The calibration certificate shall not be reproduced except in full, without written approval of SP Metrology System (Thailand).

Calibrated by : Mr. Munin Khumpum

Calibration Officer

Approved by :

(Mr. Prayoon Topart)

Authorized Signatory



Calibration Report

Certificate Number : SPR23010301-2

Page : 2 of 4

Reference Standards

Equipment Name	Model	Serial No.	Certificate No.	Due. Date
Vibration Calibrator	VC-02	2007014	AV-0050-20	10 Dec 2023

Traceability

This certification is traceable to the International System of Unit maintained at :
NIMT - The National Institute of Metrology, Thailand.



Result of Calibration

Certificate No. : SPR23010301-2

Page : 3 of 4

Results of Calibration : (*) Without () After Adjustment

Geophone P/N 721A3301 Functional Performance Test @160Hz

Function	STD Reading	UUC. Reading	Error	Uncertainty (\pm)
Velocity (mm/s)	5.002	5.008	0.006	0.059

Frequency Response Performance Test @ 5 mm/s

Unit : mm/s

Frequency (Hz)	STD Reading	UUC. Reading	Error	Uncertainty (\pm)
10.0	5.006	5.014	0.008	0.058
20.0	5.005	5.012	0.007	0.058
50.0	5.004	5.009	0.005	0.058
80.0	5.003	5.011	0.008	0.058
100.0	5.003	5.009	0.006	0.058
160.0	5.004	5.012	0.008	0.058
200.0	5.005	5.012	0.007	0.058



Result of Calibration

Certificate No. : SPR23010301-2

Page : 4 of 4

Results of Calibration : (★) Without () After Adjustment

Linearity Performance Test

Unit : m/s²

Frequency (Hz)	STD Reading	UUC. Reading	Error	Uncertainty (±)
160.0	0.501	0.504	0.003	0.0060
160.0	1.001	1.003	0.002	0.012
160.0	1.502	1.507	0.005	0.017
160.0	2.001	2.007	0.006	0.023
160.0	3.002	3.012	0.010	0.035
160.0	5.001	5.011	0.010	0.058

Note:

The result of calibration was found accurate as show on date and place of calibration only.
This Certificate is not certified for any commercial transaction.

Measurement Uncertainty

The reported uncertainty of measurement is the expanded uncertainty obtained by multiplying the standard uncertainty with the coverage factor $k = 2$, providing a level of confidence approximately 95%

- End of Certificate -