

ภาคผนวกที่ 5

เอกสารการสอบเทียบความถูกต้องของเครื่องมือ

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| เอกสาร | 5-1 | เอกสารสอบเทียบเครื่องมือการตรวจวัดคุณภาพอากาศ |
| เอกสาร | 5-2 | เอกสารสอบเทียบเครื่องมือการตรวจวัดระดับเสียง |

ตารางสรุปรายการเอกสารการสอบเทียบเครื่องมือตรวจวัดคุณภาพสิ่งแวดล้อม

รายการตรวจวัด	เครื่องมือเก็บตัวอย่าง	เครื่องมือตรวจวิเคราะห์
	ชื่อเครื่องมือ	ชื่อเครื่องมือ
คุณภาพอากาศ		
- TSP	- High Volume Air Sampler No. B15, B28, B38, B41	- Digital Balance
- PM ₁₀	- High Volume PM-10 Air Sampler No. B28, B31, B32	- Digital Balance
- CO	- CO Analyzer No. B01, B02, B06, B07, B14	- CO Analyzer No. B01, B02, B06, B07, B14
ระดับเสียง		
- Leq 24 hr	- Acoustic Calibrator	-
- Lmax	- Sound Level Meter No. ACO-B07, B14, B24 No. CR- B04, B07	-

เอกสารที่ 5-1

เอกสารสอบเทียบเครื่องมือการตรวจวัดคุณภาพอากาศ



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

High Volume Air Sampler Calibration Report

Calibration Method : Multipoint Orifice Flow Transfer Standard

Model : TE 5025A

S/N : 3611

Calibration Data

High Volume Air Sampler Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	03/05/2023	y = 1.313x-6.873	0.998
B02	B02	03/05/2023	y = 1.116x+2.378	0.999
B03	B03	03/05/2023	y = 1.102x-0.827	0.997
B04	B04	02/05/2023	y = 1.246x-6.815	0.999
B05	B05	02/05/2023	y = 1.331x-9.589	0.998
B06	B06	04/05/2023	y = 1.282x-7.814	0.999
B07	B07	03/05/2023	y = 1.194x-5.233	0.999
B08	B08	03/05/2023	y = 1.274x-8.294	0.998
B09	B09	01/05/2023	y = 1.221x-3.849	0.997
B10	B10	01/05/2023	y = 1.181x-2.610	0.997
B11	B11	02/05/2023	y = 1.154x-1.998	0.998
B12	B12	02/05/2023	y = 1.200x-4.528	0.999
B13	B13	02/05/2023	y = 1.216x-4.270	0.998
B14	B14	02/05/2023	y = 1.326x-8.548	1.000
B15	B15	02/05/2023	y = 1.222x-5.693	0.997
B16	B16	01/05/2023	y = 1.287x-7.502	0.997
B17	B17	01/05/2023	y = 1.255x-6.198	0.999
B18	B18	02/05/2023	y = 1.243x-6.744	0.997
B19	B19	01/05/2023	y = 1.320x-8.840	0.999
B20	B20	03/05/2023	y = 1.245x-6.585	0.998
B21	B21	03/05/2023	y = 1.186x-3.464	0.999
B22	B22	03/05/2023	y = 1.297x-8.592	0.997
B23	B23	02/05/2023	y = 1.216x-4.912	0.998
B24	B24	02/05/2023	y = 1.144x-1.869	0.999
B25	B25	02/05/2023	y = 1.079x+1.654	0.999
B26	B26	02/05/2023	y = 1.218x-5.191	0.997
B27	B27	02/05/2023	y = 1.225x-5.812	0.998
B28	B28	02/05/2023	y = 1.305x-8.342	0.999
B29	B29	02/05/2023	y = 1.285x-8.182	0.996
B30	B30	02/05/2023	y = 1.299x-8.294	0.997
B31	B31	03/05/2023	y = 1.270x-6.531	0.998
B32	B32	02/05/2023	y = 1.249x-6.292	0.997
B33	B33	01/05/2023	y = 1.260x-7.688	0.997
B34	B34	02/05/2023	y = 1.291x-8.548	0.999



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Model : TE 5025A

S/N : 3611

Calibration Data

High Volume Air Sampler Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B35	B35	01/05/2023	$y = 1.310x - 9.363$	0.996
B36	B36	02/05/2023	$y = 1.201x - 4.686$	0.999
B37	B37	02/05/2023	$y = 1.239x - 4.586$	0.998
B38	B38	02/05/2023	$y = 1.304x - 9.606$	0.997
B39	B39	01/05/2023	$y = 1.240x - 5.469$	0.998
B40	B40	03/05/2023	$y = 1.196x - 4.045$	0.999
B41	B41	03/05/2023	$y = 1.179x - 2.611$	0.999
B42	B42	02/05/2023	$y = 1.246x - 7.813$	0.996
B43	B43	02/05/2023	$y = 1.206x - 3.694$	0.999
B44	B44	02/05/2023	$y = 1.302x - 9.108$	0.999
R01	R01	02/05/2023	$y = 1.268x - 7.113$	0.995
R02	R02	01/05/2023	$y = 1.235x - 6.759$	0.997
R03	R03	03/05/2023	$y = 1.247x - 7.848$	0.996
R04	R04	02/05/2023	$y = 1.161x - 1.778$	0.999
R05	R05	02/05/2023	$y = 1.288x - 9.494$	0.999
R06	R06	02/05/2023	$y = 1.277x - 6.891$	0.997
R07	R07	02/05/2023	$y = 1.046x + 2.772$	1.000
R08	R08	02/05/2023	$y = 1.206x - 5.068$	0.997
R09	R09	02/05/2023	$y = 1.296x - 8.463$	0.999
R10	R10	02/05/2023	$y = 1.244x - 6.477$	0.999
R11	R11	02/05/2023	$y = 1.097x - 0.462$	0.998
R12	R12	02/05/2023	$y = 1.210x - 5.084$	0.998
R13	R13	01/05/2023	$y = 1.149x - 1.965$	1.000
R14	R14	01/05/2023	$y = 1.189x - 3.035$	0.998
R15	R15	02/05/2023	$y = 1.161x - 3.437$	0.998
R16	R16	01/05/2023	$y = 1.158x - 4.330$	0.997
R17	R17	02/05/2023	$y = 1.218x - 5.356$	0.998
R18	R18	02/05/2023	$y = 1.234x - 5.546$	0.999
R19	R19	02/05/2023	$y = 1.267x - 7.058$	0.999



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Calibration Data

High Volume Air Sampler Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	01/08/2023	y = 1.289x-5.689	0.999
B02	B02	02/08/2023	y = 1.106x+2.666	0.999
B03	B03	01/08/2023	y = 1.126x-0.852	0.997
B04	B04	01/08/2023	y = 1.294x-8.235	0.998
B05	B05	04/08/2023	y = 1.279x-7.416	0.996
B06	B06	01/08/2023	y = 1.280x-7.015	0.999
B07	B07	01/08/2023	y = 1.220x-6.249	0.998
B08	B08	01/08/2023	y = 1.268x-7.621	0.999
B09	B09	01/08/2023	y = 1.258x-5.982	1.000
B10	B10	04/08/2023	y = 1.142x+0.294	0.999
B11	B11	04/08/2023	y = 1.165x-3.050	0.998
B12	B12	04/08/2023	y = 1.227x-5.594	0.999
B13	B13	04/08/2023	y = 1.282x-7.522	0.998
B14	B14	04/08/2023	y = 1.298x-7.713	0.999
B15	B15	02/08/2023	y = 1.176x-3.322	0.997
B16	B16	02/08/2023	y = 1.316x-9.126	0.997
B17	B17	02/08/2023	y = 1.235x-5.694	1.000
B18	B18	02/08/2023	y = 1.323x-10.629	0.998
B19	B19	02/08/2023	y = 1.277x-8.109	0.997
B20	B20	02/08/2023	y = 1.297x-8.466	0.998
B21	B21	03/08/2023	y = 1.186x-3.582	1.000
B22	B22	03/08/2023	y = 1.274x-8.729	0.998
B23	B23	03/08/2023	y = 1.224x-5.880	0.995
B24	B24	03/08/2023	y = 1.185x-3.773	0.999
B25	B25	01/08/2023	y = 1.075x+1.295	0.998
B26	B26	01/08/2023	y = 1.282x-7.798	0.997
B27	B27	01/08/2023	y = 1.248x-7.408	0.997
B28	B28	01/08/2023	y = 1.279x-8.370	0.999
B29	B29	04/08/2023	y = 1.292x-7.541	0.999
B30	B30	04/08/2023	y = 1.270x-8.142	0.995
B31	B31	04/08/2023	y = 1.284x-8.212	0.999
B32	B32	04/08/2023	y = 1.294x-6.759	0.999
B33	B33	04/08/2023	y = 1.252x-5.024	0.999
B34	B34	04/08/2023	y = 1.262x-7.362	0.998

Calibrate



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Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B35	B35	03/08/2023	y = 1.221x-4.116	0.995
B36	B36	03/08/2023	y = 1.247x-6.537	0.999
B37	B37	03/08/2023	y = 1.313x-8.352	0.997
B38	B38	03/08/2023	y = 1.279x-8.340	0.998
B39	B39	03/08/2023	y = 1.286x-6.520	0.999
B40	B40	03/08/2023	y = 1.241x-6.104	1.000
B41	B41	03/08/2023	y = 1.203x-4.249	0.999
B42	B42	03/08/2023	y = 1.296x-8.828	0.999
B43	B43	04/08/2023	y = 1.245x-5.710	0.997
B44	B44	04/08/2023	y = 1.262x-5.417	0.999
R01	R01	04/08/2023	y = 1.285x-8.953	0.999
R02	R02	04/08/2023	y = 1.268x-8.283	0.998
R03	R03	04/08/2023	y = 1.283x-9.563	0.999
R04	R04	04/08/2023	y = 1.234x-5.231	0.999
R05	R05	04/08/2023	y = 1.303x-10.505	0.999
R06	R06	04/08/2023	y = 1.287x-7.927	0.997
R07	R07	04/08/2023	y = 1.084x+0.577	0.999
R08	R08	04/08/2023	y = 1.304x-9.687	0.998
R09	R09	04/08/2023	y = 1.286x-8.387	0.998
R10	R10	03/08/2023	y = 1.241x-6.099	0.996
R11	R11	03/08/2023	y = 1.112x-1.473	0.998
R12	R12	03/08/2023	y = 1.250x-6.933	0.997
R13	R13	02/08/2023	y = 1.142x-2.480	0.998
R14	R14	02/08/2023	y = 1.205x-3.813	0.998
R15	R15	01/08/2023	y = 1.160x-3.518	0.999
R16	R16	01/08/2023	y = 1.229x-7.416	0.998
R17	R17	01/08/2023	y = 1.209x-4.808	0.998
R18	R18	01/08/2023	y = 1.257x-6.979	0.999
R19	R19	01/08/2023	y = 1.256x-7.676	0.998
R20	R20	01/08/2023	y = 1.279x-8.603	0.998



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Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	01/11/2023	y = 1.234x-3.561	0.997
B02	B02	02/11/2023	y = 1.168x-0.261	0.999
B03	B03	02/11/2023	y = 1.171x-3.628	0.998
B04	B04	02/11/2023	y = 1.271x-7.126	0.999
B05	B05	03/11/2023	y = 1.223x-6.612	0.998
B06	B06	01/11/2023	y = 1.235x-6.018	0.997
B07	B07	01/11/2023	y = 1.206x-6.272	0.999
B08	B08	01/11/2023	y = 1.280x-8.017	0.996
B09	B09	02/11/2023	y = 1.268x-7.075	0.999
B10	B10	03/11/2023	y = 1.114x+1.255	0.998
B11	B11	03/11/2023	y = 1.147x-2.182	0.999
B12	B12	03/11/2023	y = 1.243x-6.434	0.998
B13	B13	02/11/2023	y = 1.188x-3.203	0.996
B14	B14	02/11/2023	y = 1.241x-6.190	0.998
B15	B15	09/11/2023	y = 1.228x-4.962	0.996
B16	B16	01/11/2023	y = 1.288x-7.889	0.998
B17	B17	01/11/2023	y = 1.194x-2.803	0.999
B18	B18	02/11/2023	y = 1.234x-7.054	0.999
B19	B19	02/11/2023	y = 1.224x-7.673	0.997
B20	B20	01/11/2023	y = 1.194x-5.352	0.998
B21	B21	01/11/2023	y = 1.127x-2.428	0.999
B22	B22	03/11/2023	y = 1.235x-8.410	0.999
B23	B23	03/11/2023	y = 1.198x-5.314	0.997
B24	B24	04/11/2023	y = 1.127x-2.077	0.999
B25	B25	04/11/2023	y = 1.115x+0.218	0.999
B26	B26	04/11/2023	y = 1.240x-6.806	0.996
B27	B27	01/11/2023	y = 1.196x-5.906	0.999
B28	B28	01/11/2023	y = 1.209x-5.372	0.997
B29	B29	01/11/2023	y = 1.251x-4.843	0.996
B30	B30	02/11/2023	y = 1.191x-3.112	0.996
B31	B31	02/11/2023	y = 1.172x-3.363	0.997
B32	B32	01/11/2023	y = 1.245x-4.270	0.999
B33	B33	01/11/2023	y = 1.222x-4.224	0.996
B34	B34	02/11/2023	y = 1.195x-4.827	0.998



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S/N : 3611

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Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B35	B35	01/11/2023	y = 1.247x - 5.373	0.999
B36	B36	02/11/2023	y = 1.190x - 2.630	0.995
B37	B37	01/11/2023	y = 1.188x - 2.249	0.999
B38	B38	01/11/2023	y = 1.191x - 5.051	0.995
B39	B39	01/11/2023	y = 1.230x - 3.335	0.995
B40	B40	02/11/2023	y = 1.172x - 2.695	0.998
B41	B41	02/11/2023	y = 1.169x - 2.206	0.998
B42	B42	02/11/2023	y = 1.212x - 5.591	0.998
B43	B43	03/11/2023	y = 1.223x - 3.058	0.997
B44	B44	01/11/2023	y = 1.194x - 2.207	0.996
R01	R01	08/11/2023	y = 1.199x - 4.374	0.998
R02	R02	06/11/2023	y = 1.229x - 6.243	0.999
R03	R03	08/11/2023	y = 1.239x - 7.264	0.998
R04	R04	09/11/2023	y = 1.182x - 3.161	0.998
R05	R05	09/11/2023	y = 1.141x - 2.095	0.997
R06	R06	03/11/2023	y = 1.155x - 2.543	0.997
R07	R07	09/11/2023	y = 1.057x + 1.380	0.999
R08	R08	02/11/2023	y = 1.230x - 6.615	0.997
R09	R09	04/11/2023	y = 1.188x - 1.331	0.997
R10	R10	04/11/2023	y = 1.213x - 3.571	0.998
R11	R11	01/11/2023	y = 1.136x - 2.259	0.999
R12	R12	01/11/2023	y = 1.145x - 3.404	0.998
R13	R13	02/11/2023	y = 1.076x - 0.153	0.999
R14	R14	02/11/2023	y = 1.166x + 1.197	0.996
R15	R15	09/11/2023	y = 1.171x - 4.139	0.997
R16	R16	09/11/2023	y = 1.142x - 3.462	0.999
R17	R17	01/11/2023	y = 1.169x - 3.932	0.998
R18	R18	01/11/2023	y = 1.192x - 4.280	0.998
R19	R19	01/11/2023	y = 1.158x - 4.004	0.996
R20	R20	02/11/2023	y = 1.191x - 4.426	0.997



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
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7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

High Volume PM-10 Air Sampler Calibration Report

Calibration Method : Multipoint Orifice Flow Transfer Standard

Model : TE 5025A

S/N : 3611

Calibration Data

High Volume PM-10 Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	02/05/2023	$y = 1.229x - 0.738$	0.998
B02	B02	03/05/2023	$y = 1.024x + 2.738$	0.999
B03	B03	04/05/2023	$y = 1.265x - 6.624$	0.996
B04	B04	04/05/2023	$y = 1.213x - 4.170$	0.999
B05	B05	02/05/2023	$y = 1.240x - 5.164$	0.998
B06	B06	02/05/2023	$y = 1.196x - 4.232$	0.995
B07	B07	03/05/2023	$y = 1.256x - 5.478$	0.998
B08	B08	04/05/2023	$y = 1.215x - 2.945$	0.995
B09	B09	03/05/2023	$y = 1.199x - 3.875$	0.998
B10	B10	03/05/2023	$y = 1.281x - 8.260$	0.998
B11	B11	03/05/2023	$y = 1.311x - 9.505$	0.996
B12	B12	04/05/2023	$y = 1.289x - 6.825$	0.998
B13	B13	04/05/2023	$y = 1.267x - 6.736$	0.997
B14	B14	04/05/2023	$y = 1.218x - 4.099$	0.995
B15	B15	04/05/2023	$y = 1.158x - 0.666$	0.995
B16	B16	03/05/2023	$y = 1.259x - 1.610$	1.000
B17	B17	02/05/2023	$y = 1.266x - 6.673$	0.998
B18	B18	02/05/2023	$y = 1.205x - 3.107$	0.999
B19	B19	03/05/2023	$y = 1.108x + 0.786$	0.999
B20	B20	03/05/2023	$y = 1.193x - 4.089$	0.996
B21	B21	03/05/2023	$y = 1.252x - 3.159$	0.995
B22	B22	03/05/2023	$y = 1.256x - 6.331$	0.996
B23	B23	03/05/2023	$y = 1.207x - 3.098$	0.997
B24	B24	03/05/2023	$y = 1.298x - 8.224$	0.997
B25	B25	03/05/2023	$y = 1.209x - 5.271$	0.999
B26	B26	03/05/2023	$y = 1.204x - 3.755$	0.999
B27	B27	02/05/2023	$y = 1.278x - 8.286$	0.999
B28	B28	03/05/2023	$y = 1.165x - 3.132$	0.997
B29	B29	04/05/2023	$y = 1.228x - 6.940$	0.995
B30	B30	04/05/2023	$y = 1.140x - 1.179$	0.996
B31	B31	04/05/2023	$y = 1.134x + 2.226$	0.999
B32	B32	04/05/2023	$y = 1.166x - 1.023$	0.999
B33	B33	04/05/2023	$y = 1.261x - 9.211$	0.998
B34	B34	04/05/2023	$Y = 1.254x - 3.650$	0.999



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7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chaluchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

High Volume PM-10 Air Sampler Calibration Report

Calibration Method : Multipoint Orifice Flow Transfer Standard

Model : TE 5025A

S/N : 3611

Calibration Data

High Volume PM-10 Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	03/08/2023	y = 1.268x-3.132	0.995
B02	B02	01/08/2023	y = 1.046x+2.277	0.999
B03	B03	01/08/2023	y = 1.277x-6.485	0.998
B04	B04	01/08/2023	y = 1.287x-8.164	0.999
B05	B05	01/08/2023	y = 1.229x-5.276	0.998
B06	B06	01/08/2023	y = 1.270x-6.448	0.997
B07	B07	03/08/2023	y = 1.285x-6.916	0.998
B08	B08	01/08/2023	y = 1.286x-6.261	0.998
B09	B09	03/08/2023	y = 1.257x-5.694	0.997
B10	B10	03/08/2023	y = 1.292x-8.553	0.996
B11	B11	03/08/2023	y = 1.250x-6.659	0.998
B12	B12	02/08/2023	y = 1.292x-8.553	0.996
B13	B13	02/08/2023	y = 1.285x-7.847	1.000
B14	B14	02/08/2023	y = 1.279x-5.782	0.999
B15	B15	02/08/2023	y = 1.144x-0.631	0.999
B16	B16	02/08/2023	y = 1.228x-0.850	0.995
B17	B17	01/08/2023	y = 1.279x-7.056	0.997
B18	B18	01/08/2023	y = 1.220x-3.845	0.998
B19	B19	01/08/2023	y = 1.123x-0.193	0.999
B20	B20	03/08/2023	y = 1.216x-5.924	0.999
B21	B21	03/08/2023	y = 1.182x-1.600	0.996
B22	B22	03/08/2023	y = 1.298x-8.251	0.998
B23	B23	02/08/2023	y = 1.227x-4.062	0.999
B24	B24	02/08/2023	y = 1.246x-4.841	0.999
B25	B25	02/08/2023	y = 1.224x-5.771	1.000
B26	B26	01/08/2023	y = 1.277x-6.994	0.998
B27	B27	04/08/2023	y = 1.258x-8.288	0.999
B28	B28	04/08/2023	y = 1.226x-6.184	0.998
B29	B29	04/08/2023	y = 1.275x-8.861	0.999
B30	B30	03/08/2023	y = 1.308x-9.003	0.999
B31	B31	03/08/2023	y = 1.205x-1.680	0.995
B32	B32	03/08/2023	y = 1.229x-4.453	0.998
B33	B33	03/08/2023	y = 1.273x-7.576	0.996
B34	B34	03/08/2023	y = 1.268x-3.565	0.997



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7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

High Volume PM-10 Air Sampler Calibration Report

Calibration Method : Multipoint Orifice Flow Transfer Standard

Model : TE 5025A

S/N : 3611

Calibration Data

High Volume PM-10 Data		Calibration Data		
Recorder No.	Blower No.	Date	Actual Flowrate (ft ³ /min)	R ²
B01	B01	02/11/2023	y = 1.172x-0.179	0.999
B02	B02	01/11/2023	y = 1.108x+0.767	0.996
B03	B03	01/11/2023	y = 1.168x-2.165	0.997
B04	B04	01/11/2023	y = 1.197x-5.349	0.996
B05	B05	01/11/2023	y = 1.177x-3.382	0.995
B06	B06	02/11/2023	y = 1.152x-2.276	0.997
B07	B07	02/11/2023	y = 1.176x-3.160	0.995
B08	B08	01/11/2023	y = 1.188x-2.024	0.997
B09	B09	04/11/2023	y = 1.214x-4.707	0.998
B10	B10	04/11/2023	y = 1.171x-3.867	0.996
B11	B11	04/11/2023	y = 1.174x-3.317	0.998
B12	B12	01/11/2023	y = 1.164x-0.858	0.995
B13	B13	01/11/2023	y = 1.192x-4.277	0.997
B14	B14	01/11/2023	y = 1.196x-2.988	0.996
B15	B15	01/11/2023	y = 1.071x+1.858	0.998
B16	B16	02/11/2023	y = 1.138x+1.430	0.996
B17	B17	02/11/2023	y = 1.170x-3.070	0.997
B18	B18	03/11/2023	y = 1.185x-2.290	0.996
B19	B19	03/11/2023	y = 1.115x+0.036	0.999
B20	B20	02/11/2023	y = 1.142x-1.044	0.998
B21	B21	02/11/2023	y = 1.140x+0.437	0.998
B22	B22	01/11/2023	y = 1.222x-5.445	0.997
B23	B23	01/11/2023	y = 1.177x-2.100	0.998
B24	B24	01/11/2023	y = 1.182x-1.803	0.999
B25	B25	01/11/2023	y = 1.183x-3.859	0.998
B26	B26	02/11/2023	y = 1.154x-0.753	0.998
B27	B27	03/11/2023	y = 1.210x-6.901	0.996
B28	B28	02/11/2023	y = 1.186x-4.520	0.999
B29	B29	01/11/2023	y = 1.164x-4.898	0.998
B30	B30	01/11/2023	y = 1.163x-2.469	0.996
B31	B31	01/11/2023	y = 1.146x+1.014	0.999
B32	B32	01/11/2023	y = 1.157x-1.372	0.997
B33	B33	02/11/2023	y = 1.197x-3.867	0.998
B34	B34	01/11/2023	y = 1.133x+2.326	0.996



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7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com.. www.spscon.com

CALIBRATION REPORT					
NON-DISPERSIVE INFRARED CO ANALYZER					
DATE :	24 July 2023	BRAND :	API	MODEL :	300E
NO.	CO-B02	SERIAL NO.	965		
Calibrator (Dilution System)					
Brand : API			Model : 700		
Last Cal. Date : 06 September 2022			Serial No. : 421		
Reference Standard Gas					
Standard Gas : Carbon Monoxide (CO)			Cylinder No. : D196045		
Certified Date : 16 April 2022		Expired Date : 15 April 2024		Cylinder Conc. : 4,570 PPM	
CALIBRATING CONDITION					
Pressure	1011	mmbar	Temp.	24.6	°C
% RH 48					
CALIBRATION SETTING					
Span	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM	
Set Point	Expected Concentration	Analyzer Response	%Dif	Analyzer Response	
Zero	0	-0.10	-	0	
CO Span	40.00	40.09	0.225	40.00	
API Model 300E CO Analyzer Check list					
Parameter	Observed Value	Units	Nominal Range		
RANGE	50	PPM	0-1000 ppm		
STABILITY	0.10	PPM	< 1 ppm with zero air		
CO MEASURE	4016.6	mV	2500-4800 mV		
CO REFERENCE	3949.2	mV	2500-4800 mV		
MEASURE/REFERENCE RATIO	1.180	-	1.1-1.3 w/zero air		
SAMPLE PRESSURE	28.4	In-Hg-A	~2" < ambient absolute pressure		
SAMPLE FLOW	811	cc/min	800 ± 10%		
SAMPLE TEMPERATURE	48.2	°C	48 ± 4		
BENCH TEMPERATURE	48.0	°C	48 ± 2		
WHEEL TEMPERATURE	68.3	°C	68 ± 2		
BOX TEMPERATURE	30.8	°C	Ambient temp + 7 ± 10		
PHOTO-DRIVE	3030.7	mV	250 mV to 4750 mV		
SLOPE	1.017	-	1.0 ± 0.3		
OFFSET	0.2	-	0 ± 0.3		



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7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
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CALIBRATION REPORT					
NON-DISPERSIVE INFRARED CO ANALYZER					
DATE :	20 August 2023	BRAND :	API	MODEL :	300EU
NO.	CO-B14			SERIAL NO.	131
Calibrator (Dilution System)					
Brand : API			Model : 700		
Last Cal. Date : 06 September 2022			Serial No. : 421		
Reference Standard Gas					
Standard Gas : Carbon Monoxide (CO)			Cylinder No. : D196045		
Certified Date : 16 April 2022		Expired Date : 15 April 2024		Cylinder Conc. : 4,570 PPM	
CALIBRATING CONDITION					
Pressure	1011	mmbar	Temp.	24.5	°C
			% RH	48	
CALIBRATION SETTING					
Span	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM	
Set Point	Expected Concentration	Analyzer Response	%Dif	Analyzer Response	
Zero	0	-0.10	-	0	
CO Span	40.00	40.08	0.200	40.00	
API Model 300EU CO Analyzer Check list					
Parameter	Observed Value	Units	Nominal Range		
RANGE	50	PPM	0-1000 ppm		
STABILITY	0.10	PPM	< 1 ppm with zero air		
CO MEASURE	4017.3	mV	2500-4800 mV		
CO REFERENCE	3948.7	mV	2500-4800 mV		
MEASURE/REFERENCE RATIO	1.180	-	1.1-1.3 w/zero air		
SAMPLE PRESSURE	28.5	In-Hg-A	~2" < ambient absolute pressure		
SAMPLE FLOW	807	cc/min	800 ± 10%		
SAMPLE TEMPERATURE	48.3	°C	48 ± 4		
BENCH TEMPERATURE	48.1	°C	48 ± 2		
WHEEL TEMPERATURE	68.4	°C	68 ± 2		
BOX TEMPERATURE	30.8	°C	Ambient temp + 7 ± 10		
PHOTO-DRIVE	3048.9	mV	250 mV to 4750 mV		
SLOPE	1.017	-	1.0 ± 0.3		
OFFSET	0.2	-	0 ± 0.3		



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7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900

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CALIBRATION REPORT

NON-DISPERSIVE INFRARED CO ANALYZER

DATE : 25 September 2023

BRAND : API

MODEL : 300EU

NO. CO-B14

SERIAL NO. 131

Calibrator (Dilution System)

Brand : API

Model : 700

Last Cal. Date : 08 August 2023

Serial No. : 911

Reference Standard Gas

Standard Gas : Carbon Monoxide (CO)

Cylinder No. : D196045

Certified Date : 16 April 2022

Expired Date : 15 April 2024

Cylinder Conc. : 4,570 PPM

CALIBRATING CONDITION

Pressure 1011 mmbar

Temp. 24.5 °C

% RH 48

CALIBRATION SETTING

Span Set Point	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM
	Expected Concentration	Analyzer Response	%Dif	Analyzer Response
Zero	0	-0.10	-	0
CO Span	40.00	40.10	0.250	40.00

API Model 300EU CO Analyzer Check list

Parameter	Observed Value	Units	Nominal Range
RANGE	50	PPM	0-1000 ppm
STABILITY	0.10	PPM	< 1 ppm with zero air
CO MEASURE	4016.1	mV	2500-4800 mV
CO REFERENCE	3948.7	mV	2500-4800 mV
MEASURE/REFERENCE RATIO	1.180	-	1.1-1.3 w/zero air
SAMPLE PRESSURE	28.4	In-Hg-A	~2" < ambient absolute pressure
SAMPLE FLOW	807	cc/min	800 ± 10%
SAMPLE TEMPERATURE	48.3	°C	48 ± 4
BENCH TEMPERATURE	48.1	°C	48 ± 2
WHEEL TEMPERATURE	68.4	°C	68 ± 2
BOX TEMPERATURE	30.9	°C	Ambient temp + 7 ± 10
PHOTO-DRIVE	3050.7	mV	250 mV to 4750 mV
SLOPE	1.017	-	1.0 ± 0.3
OFFSET	0.2	-	0 ± 0.3



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CALIBRATION REPORT						
NON-DISPERSIVE INFRARED CO ANALYZER						
DATE :	29 October 2023	BRAND :	Thermo	MODEL :	48C	
NO.	CO-B07	SERIAL NO.	335203746			
Calibrator (Dilution System)						
Brand	: API			Model	: 700	
Last Cal. Date	: 08 August 2023			Serial No.	: 911	
Reference Standard Gas						
Standard Gas	: Carbon Monoxide (CO)			Cylinder No.	: D196045	
Certified Date	: 16 April 2022	Expired Date	: 15 April 2024	Cylinder Conc.	: 4,570 PPM	
CALIBRATING CONDITION						
Pressure	1011	mmbar	Temp.	24.6	°C	
% RH						49
CALIBRATION SETTING						
Span	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM		
Set Point	Expected Concentration	Analyzer Response	%Dif	Analyzer Response		
Zero	0	0.10	-	0		
CO Span	40.00	39.94	-0.150	40.00		
INSTRUMENT STATUS						
CHAMBER TEMP	47.4 °C		FLOW	1.5 LPM		
PRESSURE	730.6 mm Hg		MOTOR SPEED	100.00%		



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CALIBRATION REPORT							
NON-DISPERSIVE INFRARED CO ANALYZER							
DATE :	19 November 2023	BRAND :	API	MODEL :	300E		
NO.	CO-B01	SERIAL NO.	782				
Calibrator (Dilution System)							
Brand : Teledyne			Model : 700E				
Last Cal. Date : 30 October 2023			Serial No. 201-S				
Reference Standard Gas							
Standard Gas : Carbon Monoxide (CO)			Cylinder No. : D196045				
Certified Date : 16 April 2022		Expired Date : 15 April 2024		Cylinder Conc. : 4,570 PPM			
CALIBRATING CONDITION							
Pressure	1011	mmbar	Temp.	24.5	°C	% RH	48
CALIBRATION SETTING							
Span	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM			
Set Point	Expected Concentration	Analyzer Response	%Dif	Analyzer Response			
Zero	0	-0.10	-	0			
CO Span	40.00	39.91	-0.225	40.00			
API Model 300E CO Analyzer Check list							
Parameter	Observed Value	Units	Nominal Range				
RANGE	50	PPM	0-1000 ppm				
STABILITY	0.10	PPM	< 1 ppm with zero air				
CO MEASURE	4014.2	mV	2500-4800 mV				
CO REFERENCE	3946.6	mV	2500-4800 mV				
MEASURE/REFERENCE RATIO	1.180	-	1.1-1.3 w/zero air				
SAMPLE PRESSURE	28.6	In-Hg-A	~2" < ambient absolute pressure				
SAMPLE FLOW	810	cc/min	800 ± 10%				
SAMPLE TEMPERATURE	48.4	°C	48 ± 4				
BENCH TEMPERATURE	48.1	°C	48 ± 2				
WHEEL TEMPERATURE	68.3	°C	68 ± 2				
BOX TEMPERATURE	30.7	°C	Ambient temp + 7 ± 10				
PHOTO-DRIVE	3033.4	mV	250 mV to 4750 mV				
SLOPE	1.017	-	1.0 ± 0.3				
OFFSET	0.2	-	0 ± 0.3				



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7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
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CALIBRATION REPORT

NON-DISPERSIVE INFRARED CO ANALYZER

DATE : 24 December 2023

BRAND : API

MODEL : 300E

NO. CO-B06

SERIAL NO. 3117

Calibrator (Dilution System)

Brand : Teledyne

Model : 700E

Last Cal. Date : 30 October 2023

Serial No. : 201-S

Reference Standard Gas

Standard Gas : Carbon Monoxide (CO)

Cylinder No. : D196045

Certified Date : 16 April 2022

Expired Date : 15 April 2024

Cylinder Conc. : 4,570 PPM

CALIBRATING CONDITION

Pressure 1011 mmbar

Temp. 24.5 °C

% RH 49

CALIBRATION SETTING

Span	Initial Reading (Before Adj.),PPM			Final Reading (After Adj.),PPM
Set Point	Expected Concentration	Analyzer Response	%Dif	Analyzer Response
Zero	0	0.10	-	0
CO Span	40.00	40.11	0.275	40.00

API Model 300E CO Analyzer Check list

Parameter	Observed Value	Units	Nominal Range
RANGE	50	PPM	0-1000 ppm
STABILITY	0.10	PPM	< 1 ppm with zero air
CO MEASURE	4016.3	mV	2500-4800 mV
CO REFERENCE	3947.8	mV	2500-4800 mV
MEASURE/REFERENCE RATIO	1.180	-	1.1-1.3 w/zero air
SAMPLE PRESSURE	28.6	In-Hg-A	~2" < ambient absolute pressure
SAMPLE FLOW	806	cc/min	800 ± 10%
SAMPLE TEMPERATURE	48.5	°C	48 ± 4
BENCH TEMPERATURE	48.2	°C	48 ± 2
WHEEL TEMPERATURE	68.4	°C	68 ± 2
BOX TEMPERATURE	30.9	°C	Ambient temp + 7 ± 10
PHOTO-DRIVE	3025.8	mV	250 mV to 4750 mV
SLOPE	1.017	-	1.0 ± 0.3
OFFSET	0.2	-	0 ± 0.3

**QUALITY CALIBRATION CO.,LTD.**

235 Petchkasem 63/2 Road, Laksong, Bangkae, Bangkok 10160

Tel (662) 421-5402, (662) 444-0152-3, Fax (662) 809-4584

www.qcalibration.com

CERTIFICATE No : 23M2441

REFERENCE No : 68471-1

PAGE : 1 OF 2

Certificate of Calibration

EQUIPMENT : DIGITAL BALANCE

MANUFACTURER : METTLER TOLEDO

MODEL : XS105DU

SERIAL No : 1126422905

ID No : BA 05/50

CONDITION AS RECEIVED : USED ITEM

SUBMITTED BY : S.P.S. CONSULTING SERVICE CO., LTD.
7 SOI PHAHOLYOTHIN 24, PHAHOLYOTHIN RD.,
JOMPOL, CHATUCHAK, BANGKOK 10900

CALIBRATED BY : ATSAWIN Y.

CALIBRATION DATE : 10-Mar-23

APPROVED BY : 

ISSUED DATE : 16-Mar-23

RECEIVED DATE : 10-Mar-23

THIS CERTIFICATE MAY NOT BE REPRODUCED OTHER THAN IN FULL EXCEPT WITH THE PRIOR WRITTEN APPROVAL OF
QUALITY CALIBRATION CO., LTD.



CERTIFICATE No : 23M2441

PAGE : 2 OF 2

Calibration Report

EQUIPMENT : DIGITAL BALANCE MODEL : XS105DU
MANUFACTURER : METTLER TOLEDO S/N : 1126422905
ID No : BA 05/50 RECEIVED DATE : 10-Mar-23
AIR PRESSURE : 1010mbar \pm 1mbar CALIBRATION DATE : 10-Mar-23
AMBIENT TEMPERATURE : 23° C \pm 1° C RELATIVE HUMIDITY : 49 %RH \pm 10 % RH

CONDITION OF THIS RESULTS OF CALIBRATION

1. THIS INSTRUMENT WAS CALIBRATED BY ACCORDING TO UKAS LAB 14 EDITION 6:2019 BY USING KNOWN WEIGHT STANDARD WEIGHT. THE BALANCE WAS NOT ADJUSTED BEFORE CALIBRATION. THE BALANCE HAS NO ZERO TRACKING FUNCTION. REPEATABILITY WAS MEASURED BY USING 10 REPEATED MEASUREMENTS. LINEARITY WAS MEASURED COVERING 10 POINTS, EVENLY SPREAD OVER THE RANGE. THE INSTRUMENT WAS SET ZERO BEFORE PERFORMING THE LINEARITY TEST. OFF-CENTER LOADING WAS MEASURED BY USING STANDARD WEIGHTS PLACED ON THE PAN AND MOVED TO VARIOUS POSITIONS ON THE PAN.

2. REFERENCE STANDARD INSTRUMENTS :-

INSTRUMENT	MODEL	SERIAL No	CERTIFICATE No	DUE DATE
1) STANDARD WEIGHT SET	E2	QK-I-151	M2302013S	02-Feb-25
2) STANDARD WEIGHT	E2	15843	M2302014S	02-Feb-25

3. THIS RESULT WAS FOUND ACCURATE AS SHOWN ON DATE AND PLACE OF CALIBRATION ONLY.

4. THIS RESULT EXCLUDE LONG TERM STABILITY OF THE UNIT UNDER CALIBRATION.

5. THIS CERTIFICATE IS TRACEABLE TO THE INTERNATIONAL SYSTEM OF UNIT MAINTAINED AT:-

- NATIONAL INSTITUTE OF METROLOGY (THAILAND) THROUGH CENTRAL BUREAU OF WEIGHTS&MEASURES

RESULT OF CALIBRATION :- WITHOUT ADJUSTMENT

1. ZERO SETTING FUNCTION : NORMAL

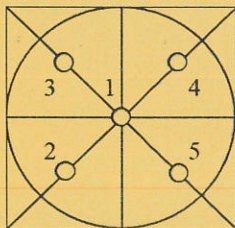
2. TARE FUNCTION : NORMAL

3. REPEATABILITY OF READING AT 200 g WAS 0 g

4. DEPARTURE FROM NOMINAL VALUE/ LINEARITY

NOMINAL VALUE (g)	BALANCE READING (g)	CORRECTION (g)	UNCERTAINTY (\pm g)
0.00	0.00000	0.00000	0.000039
0.02	0.02000	0.00000	0.000039
0.10	0.10000	0.00000	0.000039
0.20	0.20001	-0.00001	0.000040
0.50	0.50001	-0.00001	0.000040
1.00	1.00000	0.00000	0.000041
2.00	2.00003	-0.00003	0.000042
5.00	5.00001	-0.00001	0.000046
10.00	10.00003	-0.00003	0.000053
20.00	20.00005	-0.00005	0.000067
50.00	50.00001	-0.00001	0.00011
100.00	100.00001	-0.00001	0.00019
200.00	200.00001	-0.00001	0.00032

5. OFF CENTER LOADING ERROR



POINT	READING (g)
1	50.0000
2	50.0001
3	50.0000
4	50.0000
5	49.9999
OFF-CENTER LOADING	0.0001

NOTE: THIS CALIBRATION WAS CARRIED OUT AT THE CUSTOMER'S PLACE AT LABORATORY AREA

THE REPORTED UNCERTAINTY OF MEASUREMENT WAS BASED ON A STANDARD UNCERTAINTY MULTIPLIED BY A COVERAGE FACTOR $k=2$, PROVIDING A LEVEL OF CONFIDENCE APPROXIMATELY 95%.

END OF CALIBRATION REPORT

เอกสารที่ 5-2

เอกสารสอบเทียบเครื่องมือการตรวจวัดระดับเสียง

Request No. 21-66/0413

MTC No. EEL. BP. 109/0366

CALIBRATION CERTIFICATE

Submitted by : S.P.S. Consulting Service Co.,Ltd.

Address : 7 Soi Phaholyothin 24, Phaholyothin Road, Jompol, Chatuchak, Bangkok 10900.

Calibrated at : Electrical and Electronic Standards Laboratory, Industrial Metrology and Testing Service Centre.
: Soi 1C, Bangpoo Industrial Estate, Sukhumvit Rd., Muang, Samutprakan 10280.

Instrument Calibrated :

Description : Sound Calibrator

Manufacturer : ACO

Model : 2127

Serial No. : 130006

Ambient Environment

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

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

Ambient Pressure : $(101.325 \pm 1.500) \text{ kPa}$

Standards used : 1. Digital Function Synthesizer NF Electronic DF-193A S/N 122037.
2. Measuring Amplifier Bruel&Kjaer 2636 S/N 1537484.
3. Programmable Attenuator Tamagawa TPA-303A S/N OF 2214.
4. Digital Multimeter Agilent 34401A S/N MY44005560.
5. Pressure Transmitter Vaisala PTB202AD S/N T0650001.
6. Audio Analyzer Keithley 2015-P S/N 4106495.
7. Condenser Microphone Bruel&Kjaer 4180 S/N 2889871.

Calibration Procedure: CP-102-04 based on IEC 60942-2003. The sound pressure level of instrument was measured by standard microphone using an insert voltage technique.

This instrument has been calibrated against standards maintained at Electrical and Electronic Standards Laboratory (EEL), which are traceable to the International System of Units through the National Institute of Metrology (Thailand).

The information on actual reading is attached herewith and the uncertainty limits quoted refer to the measured values only.

Date of Receipt : 27 Mar. 2023

Date of Calibration : 29 Mar. 2023

The results relate only to the items tested/calibrated or value assigned.

Advertising the Report/Certificate and publicity of the results except in full are prohibited unless written permission is obtained from the governor of TISTR.

FM.BL.MTC.002 Rev.4

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-66/0413

MTC No. EEL. BP. 109/0366

The reported expanded uncertainty is based upon a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

Nominal Output of Unit Under Test = 94 dB re 20 μ Pa at 1000 Hz

Acoustic Output in dB re 20 μ Pa , Corrected to Reference Conditions : 101.325 kPa , 23.0°C and 50 %RH

1. Sound Pressure Level

Standard Microphone Type	Measured Sound Pressure Level (dB)	Deviated value (dB)	Uncertainty (dB)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	93.94	-0.06	± 0.10	± 0.40 dB

2. Frequency

Standard Microphone Type	Measured Frequency (Hz)	Deviated value (Hz)	Uncertainty (Hz)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	999.9	-0.1	± 1.5	$\pm 1.0\%$

3. Total distortion

Standard Microphone Type	Measured Total distortion (%)	Uncertainty (%)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	1.80	± 0.50	$\pm 3.0\%$

Note : 1. No adjustment.

2. The calibrator pressure correction was not included.

3. The microphone volume correction was not included.

Calibrated by :

(Mr. Weerachai Deechaiyae)

Approved by :

Director
TISTR

Electrical and Electronic Standards Laboratory

Industrial Metrology and Testing Service Centre

Date of Calibration : 29 Mar. 2023

Date of Issue : 30 Mar. 2023

Ref : 2011266032701228001

End of Certificate

2 / 2

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FM.BL.MTC.002 Rev.4

Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
Tel. (66) 0 2577 9000
Fax. (66) 0 2577 9009
E-mail : rumpai@tistr.or.th Website:www.tistr.or.th

Office/Laboratory

Soi 1C, Bangpoo Industrial Estate, Sukhumvit Road,
Amphoe Muang, Changwat Samutprakan 10280, Thailand
Tel. (66) 0 2323 1672-80 ext. 115, 116
Fax. (66) 0 2323 9165
E-mail : mtc@tistr.or.th

Office

196 Phahonyothin Road, Chatuchak, Bangkok 10900,
Thailand
Tel. (66) 0 2579 1121-30 ext. 5219, 5225, 5217
Fax. (66) 0 2579 8592
E-mail : sumalee@tistr.or.th



THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-66/0358

MTC No. EEL. BP. 22/0366

CALIBRATION CERTIFICATE

Submitted by : S.P.S. Consulting Service Co., Ltd.

Address : 7 Soi Phaholyothin 24, Phaholyothin Road, Jompol, Chatuchak, Bangkok 10900.

Calibrated at : Electrical and Electronic Standards Laboratory, Industrial Metrology and Testing Service Centre.
Soi 1C, Bangpoo Industrial Estate, Sukhumvit Rd., Muang, Samutprakan 10280.

Instrument Calibrated :

Description : Sound Calibrator

Manufacturer : Cirrus

Model : CR:515

Serial No. : 92002

Ambient Environment

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

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

Ambient Pressure : $(101.325 \pm 1.500) \text{ kPa}$

Standards used : 1. Digital Function Synthesizer NF Electronic DF-193A S/N 122037.

2. Measuring Amplifier Bruel&Kjaer 2636 S/N 1537484.

3. Programmable Attenuator Tamagawa TPA-303A S/N OF 2214.

4. Digital Multimeter Agilent 34401A S/N MY44005560.

5. Pressure Transmitter Vaisala PTB202AD S/N T0650001.

6. Audio Analyzer Keithley 2015-P S/N 4106495.

7. Condenser Microphone Bruel&Kjaer 4180 S/N 2889871.

Calibration Procedure: CP-102-04 based on IEC 60942-2003. The sound pressure level of instrument was measured by standard microphone using an insert voltage technique.

This instrument has been calibrated against standards maintained at Electrical and Electronic Standards Laboratory (EEL), which are traceable to the International System of Units through the National Institute of Metrology (Thailand).

The information on actual reading is attached herewith and the uncertainty limits quoted refer to the measured values only.

Date of Receipt : 3 Mar. 2023

Date of Calibration : 13 Mar. 2023

1 / 2

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Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
Tel. (66) 0 2577 9000
Fax. (66) 0 2577 9009
E-mail : rumpai@tistr.or.th Website:www.tistr.or.th

Office/Laboratory

Soi 1C, Bangpoo Industrial Estate, Sukhumvit Road,
Amphoe Muang, Changwat Samutprakan 10280, Thailand
Tel. (66) 0 2323 1672-80 ext. 115, 116
Fax. (66) 0 2323 9165
E-mail : mtc@tistr.or.th

Office

196 Phahonyothin Road, Chatuchak, Bangkok 10900,
Thailand
Tel. (66) 0 2579 1121-30 ext. 5219, 5225, 5217
Fax. (66) 0 2579 8592
E-mail : sumalee@tistr.or.th

THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Request No. 21-66/0358

MTC No. EEL. BP. 22/0366

The reported expanded uncertainty is based upon a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

Nominal Output of Unit Under Test = 94 dB re 20 μ Pa at 1000 Hz

Acoustic Output in dB re 20 μ Pa, Corrected to Reference Conditions: 101.325 kPa, 23.0 °C and 50 %RH.

1. Sound Pressure Level

Standard Microphone Type	Measured Sound Pressure Level (dB)	Deviated value (dB)	Uncertainty (dB)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	93.99	-0.01	± 0.10	± 0.40 dB

2. Frequency

Standard Microphone Type	Measured Frequency (Hz)	Deviated value (Hz)	Uncertainty (Hz)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	1000.3	0.3	± 1.5	$\pm 1.0\%$

3. Total Distortion

Standard Microphone Type	Measured Total Distortion (%)	Uncertainty (%)	Tolerance limit IEC60942:2003 Class 1
1/2 inch Bruel&Kjaer 4180	1.39	± 0.50	$\pm 3.0\%$

- Note :**
1. No adjustment.
 2. The calibrator pressure correction was not included.
 3. The microphone volume correction was not included.

Calibrated by :

(Mr. N

Approved by :

Electrical and Electronic Standards Laboratory

Industrial Metrology and Testing Service Centre

Date of Calibration : 13 Mar. 2023

Date of Issue : 14 Mar. 2023

Ref : 2011266030300928001

2 / 2

End of Certificate

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Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
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Thailand
Tel. (66) 0 2579 1121-30 ext. 5219, 5225, 5217
Fax. (66) 0 2579 8592
E-mail : sumalee@tistr.or.th



บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

Noise B_298/23

Sound Level Meter Calibration Report

Acoustic Calibrator Data

Brand	ACO	Number	AC 03/56
Model	2127	Serial No.	130006
Calibration Range	94 dB, 1000 Hz	Last Calibration	29 March 2023
		Due Date	29 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
ACO-B24	ACO	6236	00182005	24 July 2023	93.9	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.94 ± 0.10 dB	

Calibrated by : _____



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S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจตุจักร เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4421, E-mail : sale@spscon.com., www.spscon.com

Noise B_325/23

Sound Level Meter Calibration Report

Acoustic Calibrator Data

Brand	ACO	Number	AC 03/56
Model	2127	Serial No.	130006
Calibration Range	94 dB, 1000 Hz	Last Calibration	29 March 2023
		Due Date	29 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
ACO-B24	ACO	6236	00182005	20 August 2023	94.0	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.94 ± 0.10 dB	

Calibrated by :



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S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

Noise B_368/23

Sound Level Meter Calibration Report

Acoustic Calibrator Data

Brand	ACO	Number	AC 03/56
Model	2127	Serial No.	130006
Calibration Range	94 dB, 1000 Hz	Last Calibration	29 March 2023
		Due Date	29 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
ACO-B14	ACO	6236	00172034	25 September 2023	94.0	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.94 ± 0.10 dB	

Calibrated by :





บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

Noise B_414/23

Sound Level Meter Calibration Report

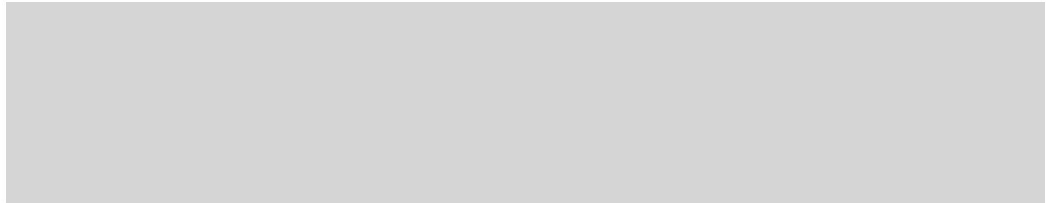
Acoustic Calibrator Data

Brand	ACO	Number	AC 03/56
Model	2127	Serial No.	130006
Calibration Range	94 dB, 1000 Hz	Last Calibration	29 March 2023
		Due Date	29 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
ACO-B07	ACO	6236	00142004	29 October 2023	94.0	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.94 ± 0.10 dB	

Calibrated by :





บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com., www.spscon.com

Noise B_443/23

Sound Level Meter Calibration Report

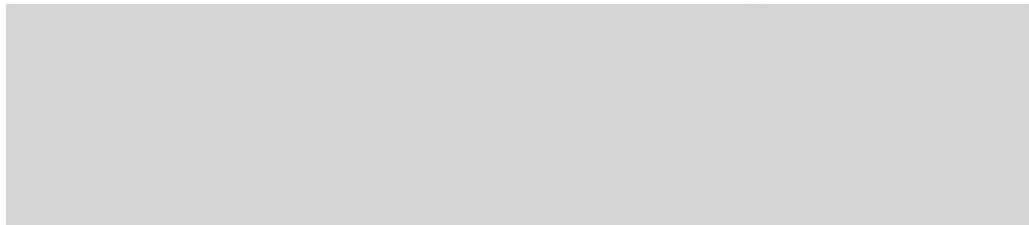
Acoustic Calibrator Data

Brand	CIRRUS	Number	AC-CR01/63
Model	CR515	Serial No.	92002
Calibration Range	94 dB, 1000 Hz	Last Calibration	13 March 2023
		Due Date	13 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
CR-B04	Cirrus	CR161B	G301404	19 November 2023	94.0	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.99 ± 0.10 dB	

Calibrated by :





บริษัท เอส.พี.เอส. คอนซัลติ้ง เซอร์วิส จำกัด
S.P.S. CONSULTING SERVICE CO., LTD.
7 ซอยพหลโยธิน 24 ถนนพหลโยธิน แขวงจอมพล เขตจตุจักร กรุงเทพฯ 10900
7 Soi Phaholyothin 24, Phaholyothin Rd., Jompol, Chatuchak, Bangkok 10900
Tel : (662) 939-4370-72, Fax : (662) 513-4221, E-mail : sale@spscon.com, www.spscon.com

Noise B_493/23

Sound Level Meter Calibration Report

Acoustic Calibrator Data

Brand	CIRRUS	Number	AC-CR01/63
Model	CR515	Serial No.	92002
Calibration Range	94 dB, 1000 Hz	Last Calibration	13 March 2023
		Due Date	13 March 2024

Calibration Data

Sound Level Meter Data				Calibration Data		
SLM No.	Brand	Model	Serial No.	Date	Actual Reading [dB]	
					Before Adjustment	After Adjustment
CR-B07	Cirrus	CR161B	G301167	24 December 2023	94.0	94.0
Acoustic Certified Value : Thailand Institute of Scientific and Technological Research (TISTR)					93.99 ± 0.10 dB	

Calibrated by :

