

**TSP HIGH VOLUME AIR SAMPLER CALIBRATION REPORT**

<b>Customer</b>	Envir Service Co.,Ltd.			<b>Date</b>	January 22, 2026
<b>Address</b>	42 Raminthra 14 Yeak 9, Tha Raeng, Bangkok, Bangkok 10230			<b>Start Time</b>	9:30 AM
Sampler Number	TSP No.3	Transfer Standard Type	Orifice	<b>Stop Time</b>	9:55 AM
Motor Serial Number	TSP No.3	Calibrator Model	25A	<b>Person</b>	Mr.Pasagorn Samol
Recorder Serial Number	-	Calibrator Serial Number	307N		

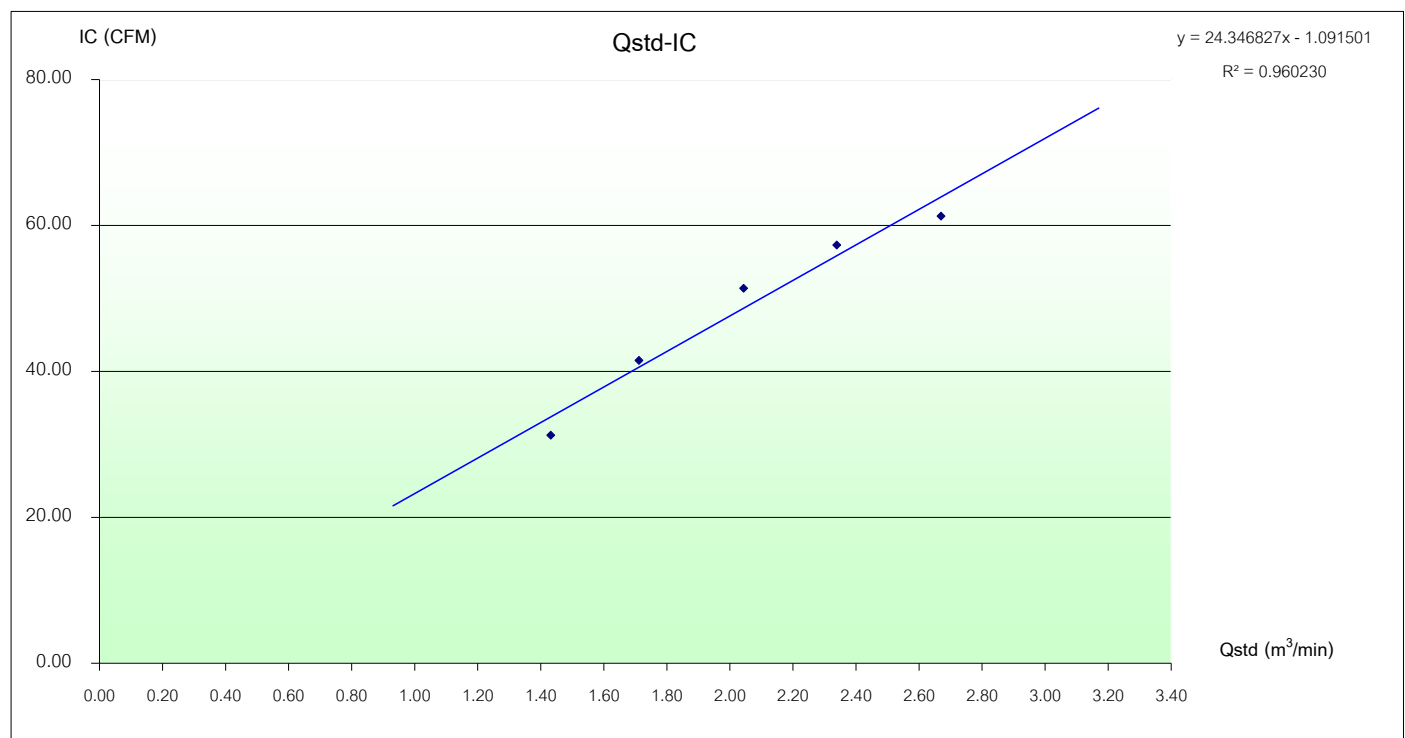
**Calibration Orifice**


Manufacture:	Graseby GMW	Qstd Slope:	1.29243
Model:	25A	Qstd Intercept:	-0.01962
Serial#:	307N	Calibration Date:	14-Dec-26

Plate No.	(Delta H)			(A)	(X)	(I)	(Y)	Temperature	Barometric Pressure	Start Meter	Stop Meter
	Positive	Negative	$\Delta H_2O$	$[\Delta H_2O(Pa/P_{std}) (T_{std}/T_a)]^{1/2}$	Qstd = $(1/m) [(A-b)]$ (m <sup>3</sup> /min)	Sample Flow Rate Indication (ft <sup>3</sup> /min)	IC = $1/[(Pa/P_{std}) (T_{std}/T_a)]^{1/2}$	(°K = °C+273)	(mmHg)		
5	1.9	1.8	8.7	2.92211	1.43134	32.0	31.26	305.0	760.0	10:40	-
7	2.8	2.7	12.5	3.50011	1.71145	42.0	41.51	305.1	760.0	-	-
10	4.0	3.9	17.9	4.18521	2.04345	52.0	51.39	305.0	760.0	-	-
13	5.3	5.2	23.5	4.79543	2.33917	58.0	57.32	305.1	760.0	-	-
18	6.4	6.3	30.7	5.47814	2.67001	62.0	61.28	305.1	760.0	-	10:35

Linear Regression Y ON X : Y= mX + b

1	Slope ( m )	2.0635	Linear Equation		Average	305.1	760.0		
2	Intercept( b )	-0.03151	Set Point Flow Rate ( X ) (m <sup>3</sup> /min)		r <sup>2</sup>	0.982631	Pstd(mmHg)	760.0	
3	Correlation Coefficient ( r )	0.99993	Final Set Flow Rate = ( I )		r	0.99127746	T <sub>NTP</sub>		298.0
<b>Result</b>					0	(Pa/Pstd)*(Tstd/Ta)		0.976857012	
						C=(Pa/Pstd)*(Tstd/Ta)^0.5		0.98836077	



Calibrate By :   
MR. KITTISAK JANSANGWATTANA

Approve by :   
MR. PASAGORN SAMOL

**PM10 HIGH VOLUME AIR SAMPLER CALIBRATION REPORT**

Customer	ENVIR SERVICE CO., LTD.			Date	January 21, 2026
Address	42 Ramintra 14 Yeak 9, Tha Raeng, Bang Khen, Bangkok 10230			Start Time	10:00 AM
Sampler Number	PM10 No.3	Transfer Standard Type	Orifice	Stop Time	10:25 AM
Motor Serial Number	PM10 No.3	Calibrator Model	25A	Person	Mr.Pasagorn Samol
Recorder Serial Number	-	Calibrator Serial Number	307N		

**Calibration Orifice**

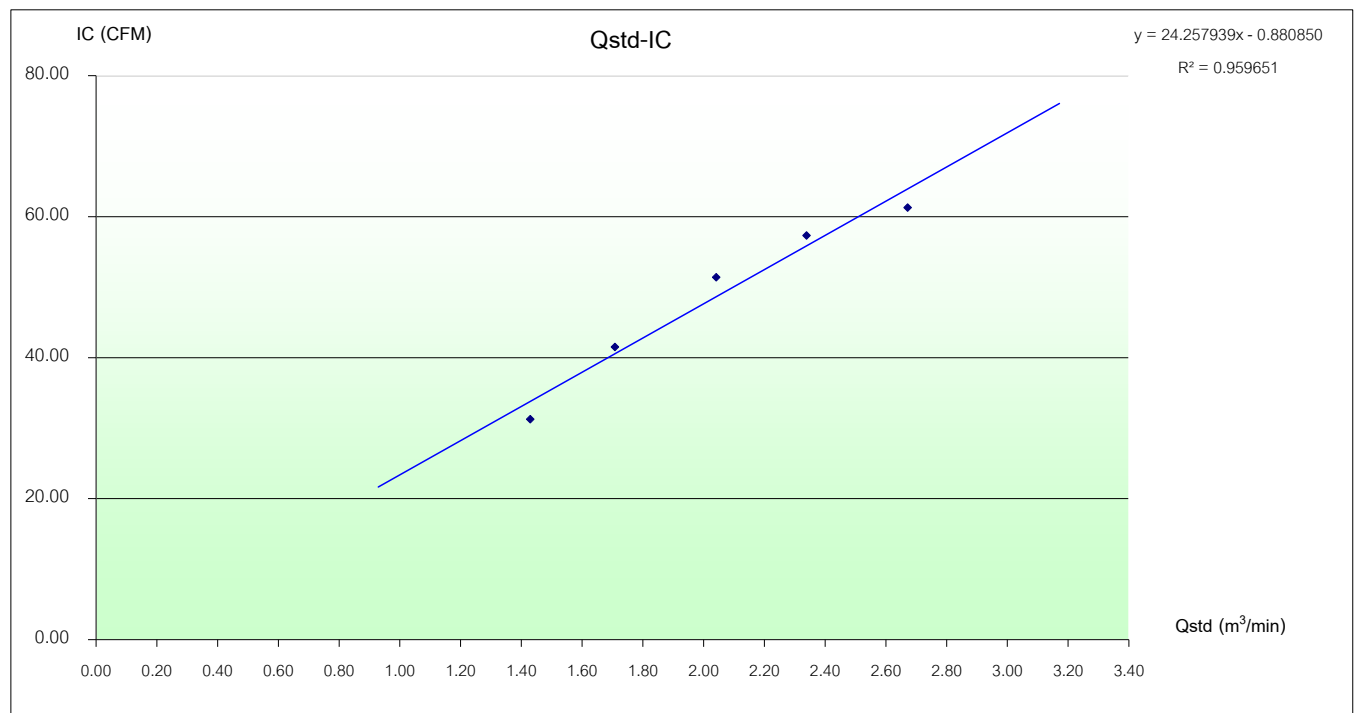
Manufacture:	Graseby GMW	Qstd Slope:	1.29243
Model:	25A	Qstd Intercept:	-0.01962
Serial#:	307N	Calibration Date:	14-Dec-26


Plate No.	(Delta H)			( A )	( X )	( I )	( Y )	Temperature	Barometric Pressure	Start Meter	Stop Meter
	Positive	Negative	$\Delta H_2O$	$[\Delta H_2O(Pa/P_{std})(T_{std}/Ta)]^{1/2}$	Qstd = $(I/m)[(A-b)]$ ( m <sup>3</sup> /min )	Sample Flow Rate Indication ( ft <sup>3</sup> /min )	$IC = I[[(Pa/P_{std})(T_{std}/Ta)]^{1/2}]$	(°K = °C+273)	( mmHg )		
5	1.9	1.8	8.7	2.91733	1.42903	32.0	31.26	305.0	760.0	9:30	-
7	2.8	2.7	12.5	3.49357	1.70828	42.0	41.51	305.1	760.0	-	-
10	4.0	3.9	17.9	4.18099	2.04141	52.0	51.39	305.0	760.0	-	-
13	5.3	5.2	23.5	4.79477	2.33885	58.0	57.32	305.1	760.0	-	-
18	6.4	6.3	30.8	5.48108	2.67144	62.0	61.28	305.2	760.0	-	9:55


Linear Regression Y ON X : Y= mX + b

1	Slope ( m )	2.0635	Linear Equation		$r^2$	0.982631	Pstd(mmHg)	760.0
2	Intercept( b )	-0.03151	Set Point Flow Rate ( X ) ( m <sup>3</sup> /min)		r	0.99127746	T <sub>NTP</sub>	298.0
3	Correlation Coefficient ( r )	0.99993	Final Set Flow Rate = ( I )		0	(Pa/Pstd)*(Tstd/Ta)	0.976792972	

Result						$C=(Pa/Pstd)*(Tstd/Ta)^{0.5}$	0.988328373
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Calibrate By :   
MR. KITTISAK JANSANGWATTANA

Approve by :   
MR. PASAGORN SAMOL

## Analyzer Performance Test

Calibrated Date: 15 January 2026

### Instruments Information

Analyzer Type : CO Analyzer

Model : 300

Manufacturer : API

Serial Number : 1461

### 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 (SO<sub>2</sub>) 55.11 PPM

Carbon Monoxide (CO) 4,535 PPM

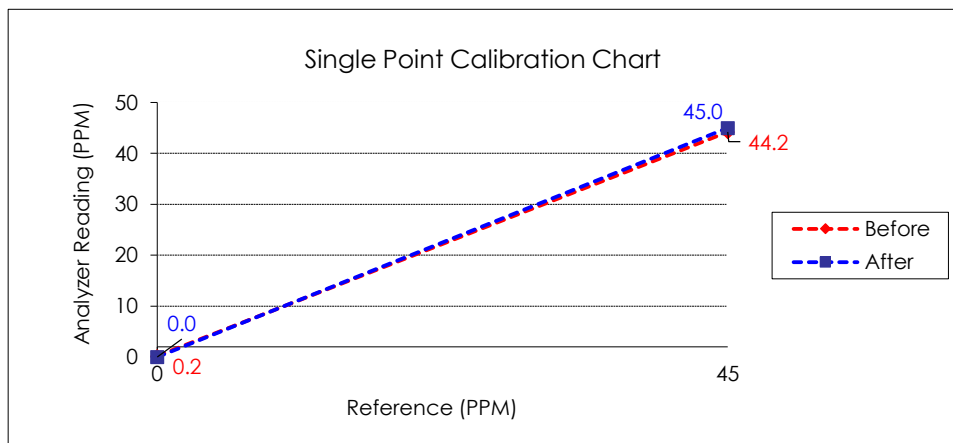
Cylinder number EB0129027

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	44.2	-1.8
After	0.0	0.0	0.0	45.0	45.0	0.0

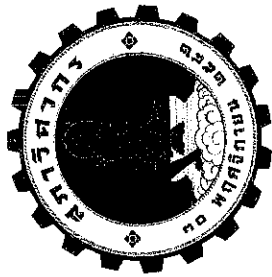


Calibrate By : *กิตติศักดิ์ จันทะวงษ์*

MR. KITTISAK JANSANGWATTANA

Approve by :

*Pasagorn Samol*  
MR. PASAGORN SAMOL



## สภากวีศวก

ตามพระราชบัญญัติศวก พ.ศ. ๒๕๕๒  
ออกโดยนุญัตินี้ไว้เพื่อแสดงว่า

บริษัท กรีน เอ็นไว เอ็นจิเนียริง จำกัด

ได้รับอนุญาตประกอบวิชาชีพวิศวกรรมควบคุม

เลขทะเบียน ๑๕๖๕/๖๒

ตั้งแต่วันที่ ๑๖ สิงหาคม ๒๕๖๗ ถึงวันที่ ๑๕ สิงหาคม ๒๕๗๐

สมชาย นาม

(นายชเนต วิระศิริ)

นายกสภาวิศวกร