High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



						File No. N	MA20003/18/024
Project No.	CKL 1 - Flat 121	Cha Kwo Ling	Village				
Date:	4-Jai	n-24	Next Due Date:	4-N	1ar-24	Operator:	SK
Equipment No.:	A-01	-18	Model No.:	TE	5170	Serial No.	0723
			Ambient				
Temperatur	re, Ta (K)	290	Pressure, Pa	(mmHg)		765.7	
		Or	rifice Transfer Sta	andard Inform	ation		
Serial	No.	3864	Slope, mc	0.05928	Intercept	t, bc	-0.03491
Last Calibra	tion Date:	16-Jan-23		mc x Qstd + b	$c = [\Delta H \times (Pa/76)]$	0) x (298/Ta)] ^{1/2}	2
Next Calibra	ation Date:	16-Jan-24		$\mathbf{Qstd} = \{ [\Delta \mathbf{H} \ \mathbf{x}] \}$	x (Pa/760) x (298/	/Ta)] ^{1/2} -bc} / m	c
I			Calibration of	TSP Sampler		******	
Calibration	ΔH (orifice),		fice	Qstd (CFM) ΔW (HVS), in.		HVS	x (298/Ta)] ^{1/2} Y-
Point	in. of water	[ΔH x (Pa/76	0) x (298/Ta)] ^{1/2}	X - axis	of water		axis
1	13.6	3	3.75	63.89	9.6	3	3.15
2	10.2	3	3.25	55.41	7.6	,	2.81
3	8.5	2	2.97	50.63	5.6	2	2.41
4	6.3	2	2.55	43.67	3.6		1.93
5	3.4		1.88	32.24	2.0		1.44
Dr. I inaan Dagu	ession of Y on X						
Slope , mw =		•		Intercent hw:	-0.431	3	
Correlation of		- 0.	9930	intercept, 5 m	0.101		
	Coefficient < 0.99			_			
		,					
			Set Point (Calculation			
	eld Calibration C	_					
From the Regress	sion Equation, th	e "Y" value acco	ording to				
		mw x ($\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W}]$	x (Pa/760) x (2	$(98/Ta)1^{1/2}$		
					,		
Therefore, Se	et Point; W = (m	$w \times Qstd + bw$	2 x (760 / Pa) x ($^{\prime}$	Ta / 298) =	3.86		
Remarks:							
•				10			
Conducted by:	Wong Sh	ing Kwai	Signature:		<u> </u>	Date:	4-Jan-24
•						-	
Checked by:	Henry	Leung	Signature:	-lem	, Don	Date:	4-Jan-24

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/024 Project No. CKL 2 - Flat 103 Cha Kwo Ling Village 4-Jan-24 Next Due Date: 4-Mar-24 Operator: SK Date: Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956 **Ambient Condition** 290 Temperature, Ta (K) Pressure, Pa (mmHg) 765.7 **Orifice Transfer Standard Information** 0.05928 Intercept, bc 3864 Slope, mc -0.03491 Serial No. $mc \times Ostd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 16-Jan-23 Qstd = $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ 16-Jan-24 Next Calibration Date: **Calibration of TSP Sampler** Orfice Calibration $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ ΔH (orifice), Ostd (CFM) ΔW (HVS), in. $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Point in. of water X - axis of water Y-axis 1 13.6 3.75 63.89 9.9 3.20 11.3 7.9 2 3.42 58.29 2.86 53.21 3.12 6.2 2.53 4 5.6 2.41 41.21 3.0 1.76 3.5 2.0 1.44 5 1.90 32.70 By Linear Regression of Y on X Slope , mw = 0.0580 Intercept, bw : -0.5302 Correlation coefficient* = 0.9963 *If Correlation Coefficient < 0.990, check and recalibrate. **Set Point Calculation** From the TSP Field Calibration Curve, take Qstd = 43 CFM From the Regression Equation, the "Y" value according to mw x Qstd + bw = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.72 Remarks: Conducted by: Wong Shing Kwai Checked by: Henry Leung

5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0022

Project No.	KER 1 - Future	Residential Deve	elopment at Kerry (Godown		<u> </u>		
Date:	10-Ja	n-24	Next Due Date:	10-1	Mar-24	Operator:	SK	
Equipment No.:	A-02	1-04	Model No.:	TE	E 5170	Serial No.	10595	
			Ambient C	ondition				
Temperatur	re, Ta (K)	293.3	Pressure, Pa			764		
		Or	ifice Transfer Star	ndard Informa	ation			
Serial	No.	3864	Slope, mc	0.05928	Intercept		-0.03491	
Last Calibra	ntion Date:	16-Jan-23			$c = [\Delta H \times (Pa/760)]$			
Next Calibra	ation Date:	16-Jan-24	($Qstd = \{ [\Delta H \ x] $	(Pa/760) x (298/	Γa)] ^{1/2} -bc} / m	c	
			Calibration of	ΓSP Sampler				
Calibration		Or	fice			HVS	1/	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(60) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/} - axis	
1	13.1		3.66	62.29	9.3		3.08	
2	10.4		3.26	55.57	7.2		2.71	
3	8.4		2.93	50.00	5.6		2.39	
4	5.3		2.33	39.84	3.5	1.89		
5	3.5		1.89	32.48	2.1	1.46		
By Linear Regression Slope, mw =		_	9997	Intercept, bw :	-0.272	24		
	Coefficient < 0.99			•				
			Set Point Ca	alculation				
From the TSP Fi	eld Calibration C	Curve, take Qstd						
From the Regress								
	_				1/2			
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}			
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	4.06	<u> </u>		
Remarks:								
Conducted by:	Wong Sh	ing Kwai	Signature:	T/Y	<u></u>	Date:	10-Jan-24	
		<i>y</i>	8	1				
Checked by:	Henry	Leung	Signature:	\-P_	- X27	Date:	10-Jan-24	

5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0021

Project No.	KTD1 - Centre	of Excellence in	Paediatrics (Childre	en's Hospital)			
Date:	10-J	an-24	Next Due Date:	10-1	Mar-24	Operator:	SK
Equipment No.:	A-0	01-44	Model No.:	TE	5-5170	Serial No.	1316
			Ambient C	ondition			
Temperatu	ire, Ta (K)	293.3	Pressure, Pa	(mmHg)		764	
Comio	1 No		rifice Transfer Star	ndard Informa 0.05928		· ho	-0.03491
Serial Last Calibra		3864 16-Jan-23	Slope, mc		Intercept $c = [\Delta H \times (Pa/760)]$		
Next Calibr		16-Jan-24			$(Pa/760) \times (298/7)$		
TYCKI CUIIDI	attion Dute.			2000 ([222.1	(24,700) 12 (250)		•
			Calibration of	ΓSP Sampler			
Calibration		0	rfice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/7	[ΔH x (Pa/760) x (298/Ta)] ^{1/2}		ΔW (HVS), in. of water		0) x (298/Ta)] ^{1/2} axis
1	13.3		3.69	62.76	9.5	3	.11
2	11.0		3.35		7.3	2	73
3	8.8		3.00	51.16	5.5	2	37
4	6.2		2.52	43.04	3.7	1	.94
5	3.7		1.94	33.38	2.3	1	.53
Slope , mw =		_		Intercept, bw =	-0.316	53	
	coefficient* =).9956				
*If Correlation C	Coefficient < 0.9	90, check and re	calibrate.				
			Set Point Ca	alculation			
From the TSP Fi	ield Calibration (Curve, take Qstd					
	ssion Equation, tl						
-				(B) (E) (C)	20/m >1/2		
		mw x ($\mathbf{Qstd} + \mathbf{bw} = [\mathbf{\Delta W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)]~~		
Therefore, Se	et Point; W = (n	nw x Qstd + bw	$(760 / Pa) \times (760 / Pa) \times (700 / Pa)$	Γa / 298) =	3.88		
Remarks:							
Conducted by:	Wong Sl	ning Kwai	Signature:	K	X- - X27	Date:	10-Jan-24

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0022

Project No.	KTD 2D - Next	to the SOR Offic	ce of Trunk Road T	2 in Kai Tak A	irea			
Date:	10-J	an-24	Next Due Date:	10-1	Mar-24	Operator:	SK	
Equipment No.:	A-0	01-41	Model No.:	TE	E 5170	Serial No.	5280	
			Ambient C	ondition				
Temperatur	re, Ta (K)	299.9	Pressure, Pa			762.1		
			ifice Transfer Star			<u> </u>		
Serial		3864	Slope, mc	0.05928	Intercept		-0.03491	
Last Calibra		16-Jan-23		mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd = $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ -bc $\}$ / mc				
Next Calibra	ation Date:	16-Jan-24		$Qstd = \{ [\Delta H \ x] \}$	(Pa/760) x (298/1	[a)]bc} / mc		
			Calibration of T	TSP Sampler				
		Or		i or bampier		HVS		
Calibration Point	ΔH (orifice), in. of water		$1AH \times (Pa//60) \times (298/1a)$		ΔW (HVS), in. of water	[ΔW x (Pa/760	0) x (298/Ta)] ^{1/2} axis	
1	13.8		3.71	63.14	9.4	3	.06	
2	11.3		3.36	57.19	8.4	2	.89	
3	9.3		3.04	51.94	6.2	2	.49	
4	6.9		2.62	44.82	4.1	2	.02	
5	3.9		1.97	33.84	2.2	1	.48	
By Linear Regr Slope , mw = Correlation		_	.9941	Intercept, bw	-0.454	3		
*If Correlation C	Coefficient < 0.9	90, check and rec	calibrate.					
			Set Point Ca	alculation				
From the TSP Fi	eld Calibration (Curve, take Qstd	= 43 CFM					
From the Regress	sion Equation, tl	ne "Y" value acco	ording to					
		mw x Q	$\mathbf{Qstd} + \mathbf{bw} = [\mathbf{\Delta W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}			
Therefore, Se	et Point; W = (n	nw x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.94			
Remarks:								
Conducted by:	Wong Sl	ning Kwai	Signature:	K	<u></u> \	Date:	10-Jan-24	
Checked by:	Henry	Leung	Signature:	\-len	J May	Date:	10-Jan-24	

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



						File No. N	MA20003/18/025
Project No.	CKL 1 - Flat 12	1 Cha Kwo Ling	Village			_	
Date:	4-M	ar-24	Next Due Date:	4-N	1ay-24	Operator:	SK
Equipment No.:	A-0				5170		
aquipinon rivon		110					0.20
			Ambient	Condition			
Temperatur	re, Ta (K)	292.7	Pressure, Pa	(mmHg)		759.3	
~			rifice Transfer Sta	1			
Serial		3864	Slope, mc	0.05976	Intercept $c = [\Delta H \times (Pa/76)]$		-0.05018
Last Calibra		15-Jan-24			к (Ра/760) x (298/		
Next Calibra	ation Date:	14-Jan-25	<u> </u>	Qstu = \[\Diff \Diff \D	X (1 a/700) X (290)	/1a)] -bc//III	<u> </u>
		•	Calibration of	TSP Sampler			
Calibration		Or	fice	•		HVS	
Calibration Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	The state of the s	x (298/Ta)] ^{1/2} Y-
1	13.7	,	3.73	63.31	9.4	,	3.09
2	10.3		3.24	55.00	7.3	2	2.72
3	8.6		2.96	50.33	5.5		2.37
4	6.3	,	2.53	43.20	3.6		1.91
5	3.7		1.94	33.30	2.0		1.43
By Linear Regr Slope , mw =	ression of Y on Y	X		Intercept, bw =	-0.503	35	
Correlation	coefficient* =	0.	.9968	_			
*If Correlation C	Coefficient < 0.99	90, check and rec	calibrate.	_			
			Set Point (Calculation			
From the TSP Fi	eld Calibration (Curve, take Qstd	= 43 CFM				
From the Regres	sion Equation, th	he "Y" value acco	ording to				
			$Qstd + bw = [\Delta W]$	(Do/760) (2	000/T ₀)1 ^{1/2}		
		mw x ($Qsta + bw = [\Delta w]$	X (Pa//00) X (2	296/1a)]		
Therefore, Se	et Point; W = (m	nw x Qstd + bw)	² x (760 / Pa) x (Ta / 298) =	3.77		
Remarks:							
				10	. 1		
Conducted by:	Wong Sh	ning Kwai	Signature:		<u>}\</u>	Date:	4-Mar-24
		_					
Checked by:	Henry	Leung	Signature:	-lem	, don	Date:	4-Mar-24

5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/025

Project No.	CKL 2 - Flat 103	3 Cha Kwo Ling	Village					
Date:	4-Ma	ar-24	Next Due Date:	4-N	Лау-24	Operator:	SK	
Equipment No.:	A-0	1-55	Model No.:	: TE 5170		Serial No.	1956	
			Ambient C	ondition				
Temperatur	re, Ta (K)	292.7	Pressure, Pa			759.3		
•	, , ,		,					
		Or	ifice Transfer Star	ndard Informa	ation			
Serial	No.	3864	Slope, mc	0.05976	Intercept	t, bc	-0.05018	
Last Calibra	ntion Date:	15-Jan-24	r	mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$				
Next Calibra	ation Date:	14-Jan-25	•	$Qstd = \{ [\Delta H x] \}$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	nc	
			Calibration of T	ΓSP Sampler				
Calibration		Or	fice	•		HVS		
Calibration Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		60) x (298/Ta)] ^{1/2} Y -axis	
1	13.7		3.73	63.31	9.8		3.16	
2	11.4		3.41	57.82	7.8		2.82	
3	9.5		3.11	52.86	6.1		2.49	
4	5.7		2.41	41.13	3.1		1.78	
5	3.6		1.91	32.86	2.0		1.43	
By Linear Regression Slope, mw = Correlation Correlation C	0.0577 coefficient* =	0	.9975 calibrate.	Intercept, bw	-0.530	<u>5</u>		
Enom the TCD Ei	ald Calibration C	Samue Anles Ootel	Set Point Ca	uculation				
From the TSP Fig		_						
From the Regress	sion Equation, th	e i value acco	naing to					
		mw x Q	$\mathbf{Qstd} + \mathbf{bw} = [\mathbf{\Delta W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}			
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.75			
Remarks:								
Conducted by:	Wong Sh	ing Kwai	Signature:	X	<u>y</u> .	Date:	4-Mar-24	
Checked by:	Henry	Leung	Signature:	\-lem	g dog	Date:	4-Mar-24	

5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0023

Project No.	KER 1 - Future	Residential Deve	elopment at Kerry (Godown		_		
Date:	10-M	Iar-24	Next Due Date:	10-1	May-24	Operator:	SK	
Equipment No.:	A-0	1-04	Model No.:	TE 5170		Serial No.	10595	
			Ambient C	ondition				
Temperatur	re, Ta (K)	289	Pressure, Pa			765.8		
F	, , , ,			(6)				
		Or	ifice Transfer Star	ndard Informa	ition			
Serial	No.	3864	Slope, mc	0.05976	Intercept		-0.05018	
Last Calibra	ation Date:	15-Jan-24			+ bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H x] \}$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	c	
			Calibration of	TSP Sampler				
Calibration	ATT (- 'C')		fice	0.41/077.0	ANI ANICA	HVS	(0) (000 T) \s1/	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/.} '-axis	
1	13.4		3.73	63.28	9.2	í	3.09	
2	10.7		3.33	56.63	7.3		2.75	
3	8.6		2.99	50.86	5.5	2.39		
4	5.5		2.39	40.84	3.6	1.93		
5	3.7		1.96	33.65	2.3	1.55		
By Linear Regr Slope , mw = Correlation		_	. 9991	Intercept, bw :	-0.204	14		
*If Correlation C	Coefficient < 0.99	00, check and rec	calibrate.	•				
			Set Point Ca	alculation				
From the TSP Fi	eld Calibration C	Curve, take Qstd						
From the Regress	sion Equation, th	ne "Y" value acco	ording to					
		_			1/2			
		mw x Q	$\mathbf{Qstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	08/Ta)] ^{1/2}			
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.96			
Remarks:								
				h	1			
Conducted by:	Wong Sh	ing Kwai	Signature:		<u> </u>	Date:	10-Mar-24	
				1 -				
Checked by:	Henry	Leung	Signature:	1-1-	- Mars	Date	10-Mar-24	

5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0022

Project No.	KTD1 - Centre	of Excellence in	Paediatrics (Childr	en's Hospital)				
Date:	10-M	Iar-24	Next Due Date:	10-1	May-24	Operator:	SK	
Equipment No.:	A-0	1-44	Model No.:	.: TE-5170		Serial No.	1316	
			Ambient C	ondition				
Temperatur	re, Ta (K)	289	Pressure, Pa			765.8		
•								
		Or	ifice Transfer Star	ndard Informa	ition			
Serial	No.	3864	Slope, mc	0.05976	Intercept		-0.05018	
Last Calibra	ation Date:	15-Jan-24			$bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x] $	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	c	
				EGD G				
		0-	Calibration of T	18P Sampler		HVS		
Calibration Point	ΔH (orifice), in. of water		50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/76	50) x (298/Ta)] ^{1/2} '-axis	
1	13.6		3.76	63.74	9.7		3.17	
2	11.3		3.43	58.18	7.5		2.79	
3	9.0		3.06	52.01	5.7		2.43	
4	6.4		2.58	43.99	3.9	2.01		
5	3.9		2.01	34.52	2.3	1.55		
By Linear Regr Slope, mw = Correlation of *If Correlation O	0.0552 coefficient* =	0	.9980	Intercept, bw =	-0.394	95		
From the TSP Fi	ald Calibration (Sumua talsa Oatd	Set Point Ca	alculation				
From the Regres								
rom the regres	sion Equation, ti		-					
		mw x Q	$\mathbf{Qstd} + \mathbf{bw} = [\mathbf{\Delta W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}			
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.77			
D 1								
Remarks:								
							_	
Conducted by:	Wong Sh	ing Kwai	Signature:	<i>\</i>	<u></u>	Date:	10-Mar-24	
Checked by:	Henry	Leung	Signature:	1-0-	- Organi	Date:	10-Mar-24	

5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0023

Project No.	KTD 2D - Next t	to the SOR Offic	ce of Trunk Road T	'2 in Kai Tak A	area		
Date:	10-Ma	ar-24	Next Due Date:	10-1	May-24	Operator:	SK
Equipment No.:	A-01	-41	Model No.:	TE	E 5170	Serial No.	5280
			Ambient C	ondition			
Temperatur	re, Ta (K)	289	Pressure, Pa	(mmHg)		765.8	
			ifice Transfer Star				
Serial		3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra		15-Jan-24	1		$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25	,	Qsta = { [Δ H X	(Pa/760) x (298/7	(a)] -bc}/m	<u>c</u>
		•	Calibration of 7	TSP Sampler			
Calibratian		Or	fice			HVS	
Calibration Point	ΔH (orifice), in. of water		50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/76	50) x (298/Ta)] ^{1/2} -axis
1	14.0		3.81	64.66	9.6		3.16
2	11.5		3.46	58.68	8.6		2.99
3	9.5		3.14	53.41	6.4	,	2.58
4	7.0		2.70	45.97	4.5		2.16
5	4.0	,	2.04	34.95	2.2		1.51
Slope , mw = Correlation	ession of Y on X 0.0573 coefficient* = Coefficient < 0.99	0	.9955	Intercept, bw :	-0.474	6	
			Set Point Ca	alculation			
	eld Calibration C sion Equation, the	e "Y" value acco		(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore, Se	et Point; W = (mv	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.81		
Remarks:							
Conducted by:	Wong Shi	ng Kwai	Signature:	K	<u></u>	Date:	10-Mar-24
Checked by:	Henry	Leung	Signature:	\-len	g Kong	Date:	10-Mar-24



RECALIBRATION DUE DATE:

January 15, 2025

Certificate of Calibration

Calibration Certification Information

Cal. Date: January 15, 2024

Rootsmeter S/N: 438320

Ta: 294

°K

Operator: Jim Tisch

Pa: 755.4

mm Hg

Calibration Model #: TE-5025A

Calibrator S/N: 3864

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4380	3.3	2.00
2	3	4	1	1.0270	6.4	4.00
3	5	6	1	0.9180	8.0	5.00
4	7	8	1	0.8750	8.9	5.50
5	9	10	1	0.7230	12.9	8.00

		Data Tabula	tion		
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	$\sqrt{\Delta H (Ta/Pa)}$
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)
1.0031	0.6975	1.4195	0.9956	0.6924	0.8823
0.9989	0.9727	2.0075	0.9915	0.9655	1.2477
0.9968	1.0858	2.2444	0.9894	1.0778	1.3950
0.9956	1.1378	2.3539	0.9882	1.1294	1.4631
0.9903	1.3697	2.8390	0.9829	1.3595	1.7645
	m=	2.11196		m=	1.32248
QSTD	b=	-0.05043	QA	b=	-0.03134
	r=	0.99998	4 .	r=	0.99998

Calculations							
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)				
Qstd=	Vstd/∆Time	Qa=	Va/ΔTime				
For subsequent flow rate calculations:							
Qstd=	$1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$	Qa=	$1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$				

Standard Conditions				
Tstd:	298.15 °K			
Pstd:	760 mm Hg			
Key				
ΔH: calibrator manometer reading (in H2O)				
ΔP: rootsmeter manometer reading (mm Hg)				
Ta: actual absolute temperature (°K)				
Pa: actual barometric pressure (mm Hg)				
b: intercept				
m: slope				

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

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Certificate of Calibration - Wind Monitoring Station

Description: Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis7440</u>

Serial No.: MC01010A44

Equipment No.: <u>SA-03-04</u>

Date of Calibration <u>18-Feb-2024</u>

Next Due Date <u>18-Aug-2024</u>

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 - V2
0.0	0.0	0.0
1.5	1.7	-0.2
2.5	2.4	0.1
4.0	3.8	0.2

2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	D = W1 - W2
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

- 1. Performance Wind Speed Test The wind meter was on-site calibrated against the anemometer
- 2. Performance Wind Direction Test The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:

Wong Shing Kwai

Approved by:

Henry/Leung