財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

(Certificate No：L1734-250313)

This is to certify that

Measurement Technology Co.,Ltd

Calibration Laboratory of Middle Region Service Department

No.32 , Fu'an 3rd St. , Xitun Dist. ,Taichung 407017, Taiwan, (R. O. C.)

is accredited in respect of laboratory

Accreditation Criteria	：	ISO/IEC 17025:2017；CNS 17025:2018
Accreditation Number	：	1734
Originally Accredited	：	December 29, 2006
Effective Period	：	January 24, 2025 to January 23, 2028
Accredited Scope	：	Calibration Field, see described in the Appendix

Scan to verify

Yi-Ling Chen

Yi-Ling Chen
President, Taiwan Accreditation Foundation
March 13, 2025

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Accreditation Number ：1734
Laboratory Head ：YANG, Chih-Chieh

Length

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA2003 Caliper (Digimatic) Caliper (Vernier) Caliper (Dial)	GAUGE BLOCK SET (PTW/B4) GAUGE BLOCK SET (KOBA/1112M) GAUGE BLOCK SET (TSUGAMI/B4) CALIPER CHECKER /Mitutoyo (515-551)	In-house method: Caliper calibration procedure (Document No.: MT-C-95-032)	0	mm	300	mm	outside (Digimatic) (resolution: 0.01 mm)	0.02	mm
			>300	mm	600	mm	outside (Digimatic) (resolution: 0.01 mm)	0.03	mm
			0	mm	600	mm	inside (Digimatic) (resolution: 0.01 mm)	0.03	mm
			0	mm	300	mm	outside (Vernier) (resolution: 0.02 mm)	0.04	mm
			>300	mm	600	mm	outside (Vernier) (resolution: 0.02 mm)	0.04	mm
			0	mm	600	mm	inside (Vernier) (resolution: 0.02 mm)	0.03	mm
			0	mm	300	mm	outside (Dial) (resolution: 0.02 mm)	0.03	mm
			0	mm	300	mm	inside (Dial) (resolution: 0.02 mm)	0.03	mm
			0	mm	200	mm	depth (Digimatic) (resolution: 0.01 mm)	0.02	mm
			0	mm	200	mm	depth (Vernier) (resolution: 0.02 mm)	0.03	mm
			0	mm	200	mm	depth (Dial) (resolution: 0.02 mm)	0.03	mm

Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA2005 Outside Micrometer	GAUGE BLOCK SET (PTW/B4) GAUGE BLOCK SET (KOBA/1112M) GAUGE BLOCK SET (TSUGAMI/B4)	In-house method: OUTSIDE MICROMETER CALIBRATION PROCEDURE (Document No.: MT-C-96-011)	0	mm	25	mm	outside (resolution 0.01 mm)	0.009	mm
			25	mm	50	mm	outside (resolution 0.01 mm)	0.009	mm
			0	mm	25	mm	outside (resolution 0.001 mm)	0.002	mm
			25	mm	50	mm	outside (resolution 0.001 mm)	0.002	mm
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									
KA2008 Height Gauge (Digital/Dial) Digital Height Gauge (on-site calibration included)	Caliper Checker (Mitutoyo/515-551) Gauge Block SET (PTW / B-4) Gauge Block SET (TSUGAMI/B4)	In-house method: Calibration Procedure for Height Gauge (Document No.: MT-C-105-014) In-house method: Calibration Procedure for Digital Height Gauge (Document No.: MT-C-105-032) (on-site calibration included)	0	mm	300	mm	Digital (Resolution 0.01 mm)	0.02	mm
			>300	mm	600	mm	Digital (Resolution 0.01 mm)	0.02	mm
			0	mm	300	mm	Dial (Resolution 0.01 mm)	0.012	mm
			>300	mm	600	mm	Dial (Resolution 0.01 mm)	0.015	mm
			0	mm	300	mm	Electronic (Resolution 0.001 mm)	0.009	mm
			>300	mm	600	mm	Electronic (Resolution 0.001 mm)	0.012	mm
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA2010 Dial & Digital Indicator (& Linear Gauge) Test Indicator	i-CHECKER (Mitutoyo/IC1000)	In-house method: Calibration Procedure of Dial & Digital Indicator (Document No.: MT-C-96-012) In-house method: Calibration Procedure of Test indicator (Document No.: MT-C-98-004)	0	mm	5	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.01 mm)	0.006	mm
			0	mm	10	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.01 mm)	0.006	mm
			0	mm	25	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.01 mm)	0.007	mm
			0	mm	50	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.01 mm)	0.008	mm
			0	mm	5	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.001 mm)	0.0010	mm
			0	mm	10	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.001 mm)	0.0013	mm
			0	mm	25	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.001 mm)	0.0027	mm
			0	mm	50	mm	Dial & Digital Indicator (& Linear Gauge) (resolution: 0.001 mm)	0.0052	mm
			0	mm	0.2	mm	Test indicator (resolution: 0.002 mm)	0.0024	mm
			0	mm	0.8	mm	Test indicator (resolution: 0.01 mm)	0.010	mm
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA2016 Extensometer (Displacement) (on-site calibration included)	LASER INTERFEROMETER (RENISHAW/XL-80)	In-house method: Calibration Procedure for Extensometer (Displacement) (on-site calibration included) (Document No.: MT-C-99-008)	0	mm	1000	mm	L: m	2X (3.6+4.8L) (L: m)	μm
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									
KA2017 Velocity of Testing Machine (on-site calibration included)	Laser Interframeter (RENISHAW/XL-80)	In-house method: Calibration Procedure for Velocity of Testing Machine (on-site calibration included) (Document No.: MT-C-104-022)	0	mm/min	100	mm/min	Velocity	0.003	mm/min
			>100	mm/min	500	mm/min	Velocity	0.011	mm/min
			>500	mm/min	1000	mm/min	Velocity	0.021	mm/min
			>1000	mm/min	2000	mm/min	Velocity	0.042	mm/min
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KA4006 Measuring Microscope (on-site calibration included)	Standard Ruler (OLYMPUS/OB-MM) Standard Ruler (RSF/ML310) Standard Ruler (Mitutoyo/HL2-300)	In-house method: Calibration Procedure for Measuring Microscope (on-site calibration included) (Document No.: MT-C-95-104)	0	mm	1	mm	Eyepiece scale /stroke of stage (X/Y AXIS)	0.0010	mm
			0	mm	200	mm	stroke of stage (X AXIS)	0.0023	mm
			0	mm	150	mm	stroke of stage (Y AXIS)	0.0019	mm
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

Mass/Force

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1001 Weight	Weight (METTLER/15880) Weight (METTLER/15882) Weight (METTLER/15883) Weight (METTLER/15851) Weight (METTLER/158526) Weight (METTLER/73226) Weight (METTLER/73227) Weight (METTLER/73338) Weight (HAFNER/F1)	In-house method: Standard Weight calibration procedure (1 mg to 20 kg) (Document No.: MT-C-110-007)	1	mg	1	mg	Class E2	0.0008	mg
			2	mg	2	mg	Class E2	0.0008	mg
			5	mg	5	mg	Class E2	0.0009	mg
			10	mg	10	mg	Class E2	0.0007	mg
			20	mg	20	mg	Class E2	0.0008	mg
			50	mg	50	mg	Class E2	0.0011	mg
			100	mg	100	mg	Class E2	0.0015	mg
			200	mg	200	mg	Class E2	0.0020	mg
			500	mg	500	mg	Class E2	0.0015	mg
			1	g	1	g	Class E2	0.002	mg
			2	g	2	g	Class E2	0.005	mg
			5	g	5	g	Class E2	0.004	mg
			10	g	10	g	Class E2	0.005	mg
			20	g	20	g	Class E2	0.011	mg
			50	g	50	g	Class E2	0.02	mg
			100	g	100	g	Class E2	0.03	mg
			200	g	200	g	Class E2	0.06	mg
			500	g	500	g	Class E2	0.2	mg
			1	kg	1	kg	Class E2	0.0003	g
			2	kg	2	kg	Class E2	0.0010	g
			5	kg	5	kg	Class E2	0.003	g
			10	kg	10	kg	Class E2	0.005	g
			20	kg	20	kg	Class E2	0.013	g

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1001 Weight	Weight (METTLER/15880) Weight (METTLER/15882) Weight (METTLER/15883) Weight (METTLER/15851) Weight (METTLER/158526) Weight (METTLER/73226) Weight (METTLER/73227) Weight (METTLER/73338) Weight (HAFNER/F1)	In-house method: Standard Weight calibration procedure (1 mg to 20 kg) (Document No.: MT-C-110-007)	1	mg	1	mg	Stainless Steel (Class F1 and lower)	0.0015	mg
			2	mg	2	mg	Stainless Steel (Class F1 and lower)	0.0017	mg
			5	mg	5	mg	Stainless Steel (Class F1 and lower)	0.0018	mg
			10	mg	10	mg	Stainless Steel (Class F1 and lower)	0.0019	mg
			20	mg	20	mg	Stainless Steel (Class F1 and lower)	0.0018	mg
			50	mg	50	mg	Stainless Steel (Class F1 and lower)	0.0022	mg
			100	mg	100	mg	Stainless Steel (Class F1 and lower)	0.0030	mg
			200	mg	200	mg	Stainless Steel (Class F1 and lower)	0.0045	mg
			500	mg	500	mg	Stainless Steel (Class F1 and lower)	0.0050	mg
			1	g	1	g	Stainless Steel (Class F1 and lower)	0.041	mg
			2	g	2	g	Stainless Steel (Class F1 and lower)	0.041	mg
			5	g	5	g	Stainless Steel (Class F1 and lower)	0.055	mg
			10	g	10	g	Stainless Steel (Class F1 and lower)	0.055	mg
			20	g	20	g	Stainless Steel (Class F1 and lower)	0.056	mg
			50	g	50	g	Stainless Steel (Class F1 and lower)	0.09	mg

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1001 Weight	Weight (METTLER/15880) Weight (METTLER/15882) Weight (METTLER/15883) Weight (METTLER/15851) Weight (METTLER/158526) Weight (METTLER/73226) Weight (METTLER/73227) Weight (METTLER/73338) Weight (HAFNER/F1)	In-house method: Standard Weight calibration procedure (1 mg to 20 kg) (Document No.: MT-C-110-007)	100	g	100	g	Stainless Steel (Class F1 and lower)	0.16	mg
			200	g	200	g	Stainless Steel (Class F1 and lower)	0.12	mg
			500	g	500	g	Stainless Steel (Class F1 and lower)	0.8	mg
			1	kg	1	kg	Stainless Steel (Class F1 and lower)	0.0011	g
			2	kg	2	kg	Stainless Steel (Class F1 and lower)	0.0013	g
			5	kg	5	kg	Stainless Steel (Class F1 and lower)	0.031	g
			10	kg	10	kg	Stainless Steel (Class F1 and lower)	0.042	g
			20	kg	20	kg	Stainless Steel (Class F1 and lower)	0.041	g
			1	mg	1	mg	Copper	0.0016	mg
			2	mg	2	mg	Copper	0.0018	mg
			5	mg	5	mg	Copper	0.0018	mg
			10	mg	10	mg	Copper	0.0019	mg
			20	mg	20	mg	Copper	0.0019	mg
			50	mg	50	mg	Copper	0.0023	mg
			100	mg	100	mg	Copper	0.0037	mg

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1001 Weight	Weight (METTLER/15880) Weight (METTLER/15882) Weight (METTLER/15883) Weight (METTLER/15851) Weight (METTLER/158526) Weight (METTLER/73226) Weight (METTLER/73227) Weight (METTLER/73338) Weight (HAFNER/F1)	In-house method: Standard Weight calibration procedure (1 mg to 20 kg) (Document No.: MT-C-110-007)	200	mg	200	mg	Copper	0.0045	mg
			500	mg	500	mg	Copper	0.0050	mg
			1	g	1	g	Copper	0.041	mg
			2	g	2	g	Copper	0.041	mg
			5	g	5	g	Copper	0.056	mg
			10	g	10	g	Copper	0.055	mg
			20	g	20	g	Copper	0.056	mg
			50	g	50	g	Copper	0.09	mg
			100	g	100	g	Copper	0.16	mg
			200	g	200	g	Copper	0.14	mg
			500	g	500	g	Copper	0.8	mg
			1	kg	1	kg	Copper	0.0011	g
			2	kg	2	kg	Copper	0.0015	g
			5	kg	5	kg	Copper	0.031	g
			10	kg	10	kg	Copper	0.042	g
			20	kg	20	kg	Copper	0.042	g
			500	g	500	g	Cast Iron	0.9	mg
			1	kg	1	kg	Cast Iron	0.0015	g
			2	kg	2	kg	Cast Iron	0.0037	g
			5	kg	5	kg	Cast Iron	0.031	g
			10	kg	10	kg	Cast Iron	0.043	g
			20	kg	20	kg	Cast Iron	0.046	g

Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1002 Balance (on-site calibration included)	Weight (METTLER /1 mg-200 g/23EA) Weight (CHINA SCALE /100 g-10 kg/32EA) Weight (METTLER /1g-2 kg/14EA) Weight (CHINA SCALE /50 g-2 kg/11EA)	In-house method: Calibration procedure for electronic balance (on-site calibration included) (Document No.: MT-C-113-007) (Document No.: MT-C-103-027) (Document No.: MT-C-103-028)	0.001	g	0.5	g	Readability ≧0.00001 g	0.00008	g
			>0.5	g	2	g	Readability ≧0.00001 g	0.00011	g
			>2	g	20	g	Readability ≧0.00001 g	0.00014	g
			>20	g	50	g	Readability ≧0.00001 g	0.00017	g
			>50	g	100	g	Readability ≧0.00001 g	0.00025	g
			>100	g	200	g	Readability ≧0.00001 g	0.00038	g
			>200	g	500	g	Readability ≧0.0001 g	0.0011	g
			>500	g	1000	g	Readability ≧0.0001 g	0.0034	g
			>1000		2000	g	Readability ≧0.0001 g	0.0062	g
			>2	kg	10	kg	Readability ≧0.001 g	0.048	g
			>10	kg	20	kg	Readability ≧0.001 g	0.066	g
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									
KC1004 Platform Scale (on-site calibration included)	Weight (METTLER /1 mg-200 g/23EA) Weight (CHINA_SCALE /100 g-10 kg/32EA) Weight (METTLER /1g-2 kg/14EA) Weight (CHINA SCALE /50 g-2 kg/11EA)	In-house method: Calibration procedure for electronic scale (0.1 kg to 30 kg) (on-site calibration included) (Document No.: MT-C-113-006) Calibration procedure for electronic scale (0.1 kg to 120 kg) (on-site calibration included) (Document No.: MT-C-110-006)	0.1	kg	30	kg	Readability ≧0.001 kg	0.002	kg
			>30	kg	60	kg	Readability ≧0.01 kg	0.02	kg
			>60	kg	110	kg	Readability ≧0.01 kg	0.03	kg
			>110	kg	120	kg	Readability ≧0.01 kg	0.04	kg
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC1005 DeadWeight	WEIGHT SET (HAFNER /1 g-20 kg/12EA) WEIGHT SET (METTLER/73227) WEIGHT SET (METTLER/73338)	In-house Method: Calibration Procedure for DeadWeight (100 mg to 20 kg) (Document NO.: MT-C-113-002)	100	mg	1	g	Brass	0.04	mg
			>1	g	20	g	Brass	0.06	mg
			>20	g	50	g	Brass	0.09	mg
			>50	g	100	g	Brass	0.18	mg
			>100	g	200	g	Brass	0.21	mg
			>200	g	500	g	Brass	0.8	mg
			>500	g	1	kg	Brass	1.3	mg
			>1	kg	2	kg	Brass	2.3	mg
			>2	kg	20	kg	Brass	40	mg
			100	mg	1	g	Stainless Steel	0.04	mg
			>1	g	20	g	Stainless Steel	0.06	mg
			>20	g	50	g	Stainless Steel	0.09	mg
			>50	g	100	g	Stainless Steel	0.16	mg
			>100	g	200	g	Stainless Steel	0.16	mg
			>200	g	500	g	Stainless Steel	0.7	mg
			>500	g	1	kg	Stainless Steel	1.0	mg
			>1	kg	2	kg	Stainless Steel	1.7	mg
			>2	kg	20	kg	Stainless Steel	40	mg
			100	mg	1	g	Cast Iron	0.04	mg
			>1	g	20	g	Cast Iron	0.07	mg
			>20	g	50	g	Cast Iron	0.14	mg
			>50	g	100	g	Cast Iron	0.26	mg
			>100	g	200	g	Cast Iron	0.45	mg
			>200	g	500	g	Cast Iron	1.3	mg
			>500	g	1	kg	Cast Iron	2.3	mg
			>1	kg	2	kg	Cast Iron	4.5	mg
			>2	kg	20	kg	Cast Iron	60	mg

Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2002 Load Cell	Weight (CHINA SCALE /100 g-10 kg/32EA) Load Cell (HBM/U10M 2.5kN, HBM/U10M 12.5kN)	In-house method: Calibration Procedure for Load Cell (Document NO.: MT-C-99-009) In-house method: Calibration Procedure for Force Transducer (Load Cell) (Document NO.: MT-C-109-005)	0.49 (0.05)	N (kgf)	19.61 (2)	N (kgf)	COMPRESSION (MASS)	0.012 (0.0012)	N (kgf)
			>19.61 (>2)	N (kgf)	196.1 (20)	N (kgf)	COMPRESSION (MASS)	0.08 (0.008)	N (kgf)
			>196.1 (>20)	N (kgf)	1961 (200)	N (kgf)	COMPRESSION (MASS)	1.6 (0.16)	N (kgf)
			0.49 (0.05)	N (kgf)	19.61 (2)	N (kgf)	TENSION (MASS)	0.014 (0.0014)	N (kgf)
			>19.61 (>2)	N (kgf)	196.1 (20)	N (kgf)	TENSION (MASS)	0.10 (0.010)	N (kgf)
			>196.1 (>20)	N (kgf)	1961 (200)	N (kgf)	TENSION (MASS)	0.6 (0.06)	N (kgf)
			200 (20.4)	N (kgf)	2 (204)	kN (kgf)	COMPRESSION (LOAD CELL)	1.3 (0.13)	N (kgf)
			1 (101.97)	kN (kgf)	10 (1019.72)	kN (kgf)	COMPRESSION (LOAD CELL)	5.2 (0.52)	N (kgf)
			200 (20.4)	N (kgf)	2 (204)	kN (kgf)	TENSION (LOAD CELL)	0.6 (0.06)	N (kgf)
			1 (101.97)	kN (kgf)	10 (1019.72)	kN (kgf)	TENSION (LOAD CELL)	3.8 (0.38)	N (kgf)
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC2005 Material Testing Machine (on-site calibration included)	Weight (CHINA SCALE /100 g-10 kg/32EA) Load Cell (NTS/LRM-2kN) Load Cell (NTS/LRM-20kN)	In-house method: Calibration Procedure for Material Testing Machine (on-site calibration included) (Document No.: MT-C-99-010)	0.49 (0.05)	N (kgf)	19.6 (2)	N (kgf)	TENSION (MASS)	0.007 (0.0007)	N (kgf)
			>19.6 (>2)	N (kgf)	196 (20)	N (kgf)	TENSION (MASS)	0.10 (0.01)	N (kgf)
			>196 (>20)	N (kgf)	1961 (200)	N (kgf)	TENSION (MASS)	0.6 (0.06)	N (kgf)
			0.98 (0.1)	N (kgf)	19.6 (2)	N (kgf)	COMPRESSION (MASS)	0.011 (0.0011)	N (kgf)
		In-house method: Calibration Procedure for Material Testing Machine (on-site calibration included) (Document No.: MT-C-109-006)	>19.6 (>2)	N (kgf)	196 (20)	N (kgf)	COMPRESSION (MASS)	0.08 (0.008)	N (kgf)
			>196 (>20)	N (kgf)	1961 (200)	N (kgf)	COMPRESSION (MASS)	1.5 (0.15)	N (kgf)
			200 (20.4)	N (kgf)	2 (204)	kN (kgf)	TENSION (LOAD CELL)	0.10	%
			1 (101.97)	kN (kgf)	10 (1019.7)	kN (kgf)	TENSION (LOAD CELL)	0.05	%
			200 (20.4)	N (kgf)	2 (204)	kN (kgf)	COMPRESSION (LOAD CELL)	0.13	%
			1 (101.97)	kN (kgf)	10 (1019.7)	kN (kgf)	COMPRESSION (LOAD CELL)	0.06	%
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC4001 Torque Wrench	TORQUE CALIBRATOR (NORBAR/43228 /50590.LOG)	In-house method: Calibration for procedure (Document No.: MT-C-99-011)	0.3 (3)	N·m (kgf·cm)	≦1 (10)	N·m (kgf·cm)	INDICATE (TYPE I)	2.6	%
			1 (10)	N·m (kgf·cm)	≦10 (102)	N·m (kgf·cm)	INDICATE (TYPE I)	1.7	%
	TORQUE CALIBRATOR (NORBAR/43228 /50593.LOG)		10 (102)	N·m (kgf·cm)	≦100 (1020)	N·m (kgf·cm)	INDICATE (TYPE I)	3.1	%
			100 (1020)	N·m (kgf·cm)	1000 (10197)	N·m (kgf·cm)	INDICATE (TYPE I)	5.8	%
	TORQUE CALIBRATOR (NORBAR/43228 /50772.LOG)		0.3 (3)	N·m (kgf·cm)	≦1 (10)	N·m (kgf·cm)	PRESET (TYPE II)	3.6	%
			1 (10)	N·m (kgf·cm)	≦10 (102)	N·m (kgf·cm)	PRESET (TYPE II)	3.4	%
	TORQUE CALIBRATOR (NORBAR/43212 /50671.LOG)		10 (102)	N·m (kgf·cm)	≦100 (1020)	N·m (kgf·cm)	PRESET (TYPE II)	1.7	%
			100 (1020)	N·m (kgf·cm)	1000 (10197)	N·m (kgf·cm)	PRESET (TYPE II)	1.2	%
KC4002 Torque Driver	TORQUE CALIBRATOR (NORBAR/43212 /50671.LOG)	In-house method: Calibration for Procedure Torque Driver (Document No.: MT-C-101-058)	0.02 (0.204)	N·m (kgf·cm)	≦2 (≦20.4)	N·m (kgf·cm)	INDICATED (TYPE I)	3.5	%
			2 (20.4)	N·m (kgf·cm)	10 (102)	N·m (kgf·cm)	INDICATED (TYPE I)	2.5	%
	TORQUE CALIBRATOR (NORBAR/43228 /50590.LOG)		0.02 (0.204)	N·m (kgf·cm)	≦0.3 (≦3.06)	N·m (kgf·cm)	PRESET (TYPE II)	6.0	%
			0.3 (3.06)	N·m (kgf·cm)	≦2 (≦20.4)	N·m (kgf·cm)	PRESET (TYPE II)	2.2	%
			2 (20.4)	N·m (kgf·cm)	10 (102)	N·m (kgf·cm)	PRESET (TYPE II)	1.9	%
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KC4004 Torque Calibrator	TORQUE TESTING UNIT (HIOS/40cm) TORQUE TESTING UNIT (NORBAR/21407) TORQUE TESTING UNIT (NORBAR/214080 WEIGHT (NORBAR/200 g-10 kg /27EA)	In-house method: Torque calibrator calibration procedure (Document No.: MT-C-95-027)	1 (10)	N·m (kgf·cm)	≦10 (≦102)	N·m (kgf·cm)	Resolution 0.001 N·m	0.23	%
			10 (102)	N·m (kgf·cm)	≦100 (≦1020)	N·m (kgf·cm)	Resolution 0.01 N·m	0.09	%
			100 (1020)	N·m (kgf·cm)	1000 (10197)	N·m (kgf·cm)	Resolution 0.01 N·m	0.10	%
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									
KC5099 Rubber Handness Meter	1.WEIGHT SET (YIXING /55.1 g-80.1 g/10EA) 2.WEIGHT SET (YIXING /56.2 g-76.6 g/10EA) 3.WEIGHT SET (YIXING /454.1 g/10EA)	1a.JIS S6050 (2008) chapter 6, JIS K7312 (1996) appendix 2 1b.JIS K6301 (1995) chapter 5 2.ASTM D2240 (2015) , JIS K7215 (1986) , JIS K6253-5 (2012)	1.323	N	7.596	N	1a.Shore Type C 10 to 90	0.031 (0.4)	N (shore)
			1.323	N	7.596	N	1b.Shore Type A 10 to 90	0.031 (0.4)	N (shore)
			1.30	N	7.30	N	2. Shore Type A 10 to 90	0.023 (0.3)	N (shore)
			4.445	N	40.005	N	2. Shore Type D 10 to 90	0.13 (0.3)	N (shore)
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

Flow

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KH3001 Hot wire anemometer Pitot tube anemometer	Hot wire Anemometer (TSI/8465-300-1) Pitot tube Anemometer (Furness Controls /FCO352-2w)	In-house method: Air Speed Calibration Calibration Procedure (Document No.: MT-C-103-004)	0.5	m/s	<1	m/s	Working standard: hot wire anemometer	0.05	m/s
			1	m/s	10.1	m/s	Working standard: hot wire anemometer	0.30	m/s
			>10.1	m/s	30	m/s	Working standard: Pitot tube anemometer	0.40	m/s
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

Chemical

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KI9001 Volumetic flask	ELECTRONIC BALANCE (METTLER/PM2000MC) ELECTRONIC BALANCE (sartorius/LE225D)	In-house method: Volumetic flask Calibration Procedure (Document NO.: MT-C-113-004)	1	mL	25	mL		0.057	mL
			50	mL	100	mL		0.07	mL
			200	mL	250	mL		0.12	mL
			500	mL	500	mL		0.22	mL
			1000	mL	1000	mL		0.42	mL
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

calibration items	working standard	calibration method	measurand level or range				measurement conditions /independent variable	smallest uncertainty	
	brand /model	document name /no.	minimum value	units	maximum value	units	explanation	value	units
KI9004 Graduated cylinder	ELECTRONIC BALANCE (METTLER/PM2000MC) ELECTRONIC BALANCE (sartorius/LE225D)	In-house method: Graduated cylinder Calibration Procedure (Document NO.: MT-C-113-005)	1	mL	5	mL		0.057	mL
			>5	mL	25	mL		0.29	mL
			>25	mL	100	mL		0.57	mL
			>100	mL	500	mL		2.9	mL
			>500	mL	1000	mL		5.7	mL
Approval Signatory: SHEN, Yi-Ling; CHANG, Kuo-Dein; HWANG, Shu-Hai; YANG, Chih-Chieh									

Note: Smallest uncertainty represents an expanded uncertainty using a coverage factor approximately 95 % level of confidence.
(Null Below)