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LABORATORY LOCATION/ CENTRAL OFFICE: 	Trescal (Malaysia) Sdn. Bhd., Penang PMT 2927, Jalan Megat Harun Pusat Perniagaan Maju 14000 Bukit Mertajam, Pulau Pinang , 14000, PULAU PINANG MALAYSIA
ACCREDITED SINCE :	11 JUNE 2025
FIELD(S) OF CALIBRATION:	DIMENSIONAL FORCE MASS PRESSURE TEMPERATURE TORQUE

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

*** The uncertainty covered by the CMC is expressed as the expanded uncertainty corresponding to a coverage probability of approximately 95 % and have a coverage factor of k=2 unless stated otherwise.**

CENTRAL LOCATION	Trescal (Malaysia) Sdn. Bhd., Penang PMT 2927, Jalan Megat Harun Pusat Perniagaan Maju 14000 Bukit Mertajam, Pulau Pinang , 14000, Pulau Pinang
FIELD(S) OF CALIBRATION :	DIMENSIONAL, FORCE, MASS, PRESSURE, HEAT & TEMPERATURE, TORQUE

SCOPE OF CALIBRATION : DIMENSIONAL

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Analytical Balance And Weighing Scale	Up to 5g Up to 20g Up to 50g Up to 200 g Up to 1 kg Up to 5 kg Up to 10 kg Up to 20 kg Up to 30 kg Up to 50 kg Up to 100 kg Up to 500 kg Up to 1,000 kg	0.06 mg 0.11 mg 0.3 mg 1.0 mg 10 mg 50 mg 0.15g 0.3g 10g 20g 0.11 kg 0.21 kg	Calibrated using standard weights with general reference to ASTM E898-20 and LAB 14 Ed. 2006. The uncertainty quoted is based on no adjustment made to the sensitivity of the weighing instrument immediately before calibration.
	Ogto20g Ogto50g Ogto 100g Ogto 200g 0kg to2kg 0 kg to 10 kg 0 kg to 20 kg 0 kg to 50 kg 0 kg to 100 kg 0 kg to 200 kg 0 kg to 300 kg 0 kg to 600 kg	2mg 2mg 2mg 2mg 0.02 g 0.02 g 0.02 g 0.2g 0.2g 0.02 kg 0.02 kg 0.2 kg 0.2 kg 0.2 kg	4 Calibrated using standard weight based ASTM on E898-20 2 The calibration the covers instrumental error, repeatability, hysteresis and eccentricity test
B) Type N	-260 °C to -100 °C	1.1°C	
	-100 °C to 1300 °C		
	-260 °C to -100 °C	1.1°C 0.2°C	
	-100 °C to 1300 °C		
	-200 °C to -100 °C	1.1°C 0.2°C	
	-100 °C to 1300 °C		
	-200 °C to -100 °C	~LA & C 0.2°C	
	-100 °C to 1300 °C		
	-200 °C to -100 °C	0.3 °C 0.1 °C	
C) Type J	-100 °C to 1300 °C		
	-200 °C to -100 °C	1.1°C 0.3 °C	
	-100 °C to 1300 °C		
	-200 °C to -100 °C	1.1°C 0.3 °C	
	-100 °C to 1300 °C		
	-200 °C to -100 °C	i 0.3 °C	
	-100 °C to 1300 °C		
	-210 °C to 1200 °C	None	
	-210 °C to 1200 °C	None	
	-210 °C to 1200 °C	None	
	-210 °C to 1200 °C	None	
	-200 °C to 1200 °C	0.1 °C	
	-200 °C to 1200 °C	0.4 °C	
	-200 °C to 1200 °C	0.4 °C	
	-200 °C to 1200 °C	0.4 °C	
	-200 °C to 1200 °C	0.4 °C	

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Compression / Tensile Testing Machine	Up to 100 kgf 100 kgf to 1000 kgf 1000 kgf to 5000 kgf 5000 kgf to 10000 kgf	0.006 kgf 1.5 kgf 3.5 kof 11 kgf	Calibrated by using load cell based on ISO 7500-1:2004
D) Type T	-270 °C to -100 °C -100 °C to 400 °C	0.6 °C 0.2°C	By electrical simulation using calibrator & reference table ITS 90
	-270 °C to -100 °C -100 °C to 400 °C	0.6 °C 0.2°C	By electrical simulation using calibrator & reference table ITS 90
D) Type T E) Type E	-270 °C to -100 °C -100 °C to 400 °C -270 °C to -100 °C -100 °C to 1000 °C	0.6 °C 0.6 °C	By electrical measurement using multimeter & reference table ITS 90
	-270 °C to -100 °C -100 °C to 400 °C -270 °C to -100 °C -100 °C to 1000 °C	0.6 °C 0.2°C 0.6 °C	By electrical simulation using calibrator & reference table ITS 90
Dial Gauge	Up to 25 mm 25 mm to 50 mm	1.0 um 1.7 um	Calibrated by using dial gauge tester and micrometer head with reference to
	Up to 25 mm 25 mm to 50 mm	None	JIS B 7503:2011
	Up to 5mm 5mm to 20 mm	2.5 um 6.5 um	Calibrated by using gauge tester as standards with reference to JIS
	Up to 5mm 5mm to 20 mm	None	B7503:2017
	Up to 5mm 5mm to 20 mm	None	Measurement of error of
	Up to 5mm 5mm to 20 mm	None	indication and
	Up to 5mm 5mm to 20 mm	None	repeatability only.
	Up to 100 mm	(0.3 + 0.06 L) um	Calibration by laser
	Up to 100 mm	None	measurement system
	Up to 100 mm	is measurement length	with reference to
	Up to 100 mm	in unit meter	JIS B 7503
	Omm to 50mm	0.5 um	Calibrated using i-
	Omm to 50mm	None	Checker with reference

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	0mm to 50mm	None	to JIS B 7503:2017
	Up to 25 mm	0.006 mm	Calibrated using
	Up to 25 mm	None	dial gauge tester
	Up to 25 mm	None	with reference to
	Up to 25 mm	None	JIS B 7503:
	Up to 25 mm	None	2017
	Up to 25 mm	None	Measurement of
	Up to 25 mm	None	Indication error
	Up to 25 mm	None	and repeatability
	Up to 25 mm	None	only.
	Up to 100 mm (resolution: 0.01 mm)	3 μ m 0.4 μ m 2 μ m	Calibrated by using i- checker as standards based on JIS B 7503:2017
	Up to 5mm (resolution: 0.001 mm)		
	Up to 5mm (resolution: 0.005 mm)		
	0mm to 50 mm	0.003 mm	B7503:2017 Calibrated by using
	0mm to 50 mm	None	Micrometer Head
	None	None	
	0mm to 10 mm 10 mm to 30 mm 30 mm to 75 mm	4.0 μ m 4.0 μ m 6.5 μ m	Comparison using calibration tester with reference to BS EN ISO 463 : 2006
	25 mm to 50 mm 50 mm to 75 mm	1.9 μ m	micrometer head as standards according
	75 mm to 100 mm	2.2 μ m	to JIS B7503:2017
Dial Test Indicator	Up to 0.28 mm 0.28 mm to 0.6 mm 0.6 mm to 1.5 mm	1.5 μ m 1.8 μ m 5.0 μ m	Calibrated by using gauge block and dial gauge tester with reference to JIS B 7533:2015
	0mm to 1.5 mm	0.004 mm	Calibrated by
	0mm	None	Calibrated using gauge tester as standard with
	0mm	None	reference to JIS
	0mm	None	B7533:1990
	Up to 3 mm	(0.3 + 0.06 L) μ m	Calibration by laser
	Up to 3 mm	None	measurement system
	Up to 3 mm	is measurement length	with reference to
	Up to 3 mm	in unit meter	JIS B 7533
	0mm to 1.6mm	0.7 μ m	Calibrated using i-
	0mm to 1.6mm	None	Checker with
	0mm to 1.6mm	None	reference to JIS B

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	0mm to 1.6mm	None	7533:2015
	0mm to 0.28 mm 0.28 mm to 1.0 mm	10 μ m	Calibrate using Calibration Tester. with reference to JIS B 7533: 2015
	Up to 1mm	0.7 μ m	Calibrated by using i-checker as standards based on JIS B 7533:2015
	Up to 0.3 mm 0.3 mm to 0.6 mm 0.6 mm to 2.0 mm	1.4 μ m 1.5 μ m	Calibrate by using micrometer head as standards according to JIS B7533:2015
	Up to 0.3 mm 0.3 mm to 0.6 mm 0.6 mm to 2.0 mm	None	Calibrate by using
Dial Thickness Gauge	Up to 20 mm	1 μ m	Calibrated by using gauge block with reference to
	Up to 20 mm	None	JIS B 7503:2011
	Up to 20 mm	1 μ m	gauge block as standards according
	Up to 20 mm	None	to JIS B7536:1982
	Up to 25 mm	1.4 μ m	Calibrate by using
Digital Indicator	Up to 50 mm	2.0 μ m	Calibrated by using gauge block with reference to
	Up to 50 mm	None	JIS B 7503:2011
	0mm to 25 mm	1.0 μ m	Calibrated using
	0mm to 50mm	0.7 μ m	Calibrated using i-
	0mm to 50mm	None	Checker and gauge
	0mm to 50mm	None	block with reference to
	0mm to 50mm	None	ASME B 89.1.10M-2001
	Up to 50 mm	None	gauge block
	Up to 50 mm	None	JIS B7536:1982
	0 mm to 50 mm 0 inch to 2 inch	2.3 μ m 0.0002 inch	Calibrated using Gauge Block according to in house calibration procedure LCP 01440
E) Type E	-250 °C to -100 °C	0.6 °C	
	-100 °C to 1000 °C		
	-250 °C to -100 °C	0.6 °C	
	-100 °C to 1000 °C		

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	-200 °C to -100 °C	0.2 °C 0.1 °C	
	-100 °C to 1000 °C		
	-200 °C to -100 °C	0.6 °C 0.3 °C	
	-100 °C to 1000 °C		
	-200 °C to -100 °C	0.6 °C 0.3 °C	
	-100 °C to 1000 °C		
	-200 °C to -100 °C	0.6 °C 0.3 °C	
	-100 °C to 1000 °C		
External Parallel Screw Thread Plug Gauge (simple Pitch Diameter And Major Diameter)	2mm to 22 mm	Major Diameter: 2.0 um Simple Pitch Diameter: 3.0 um	Calibrated by using 3 wire pin set scale and Micrometer with reference to JIS B 0261:2004
F) Type R	-50 °C to 500 °C 500 °C to 1760 °C	0.3 °C 0.2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	0.2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	2 °C	
	0 °C to 1760 °C	2 °C	
Feeler Gauge	0.01 mm to 1 mm	2.2 um	Calibrated by using Digital Micrometer with reference to
	0.01 mm to 1 mm	None	BS 957:2008
	0mm to 3mm	0.0009 mm	Calibrated by
	0.005 mm to 3 mm	1.8 um	Calibrated using digital displacement indicator as standard with reference to
	0.005 mm to 3 mm	None	JIS B7524:2008
	0.05 mm to 1.0 mm	None	Calibrate using Mu Checker. with reference to JIS B 7524: 2008
Force Measuring Device	ONto4.9N 4.9 N to 980 N	0.001 N 0.03 N	Calibrated by using dead weight with reference to
	ONto4.9N 4.9 N to 980 N	None	ISO 376:2011
G) Type S	-50 °C to 500 °C 500 °C to 1760 °C	0.3 °C 0.2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	2 °C	
	to 1760 °C	2 °C	

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	to 1760 °C	0.2 °C	
	to 1760 °C	2°C	
	to 1760 °C	2°C	
	0 °C to 1760 °C	2°C	
H) Type B	100 °C to 500 °C 500 °C to 1800 °C	1.1°C 0.3 °C	
	600 °C to 1800 °C	2°C	
	600 °C to 1800 °C	2°C	
	600 °C to 1800 °C	2°C	
	600 °C to 1800 °C	0.3 °C	
	600 °C to 1800 °C	2°C	
	600 °C to 1800 °C	2°C	
	600 °C to 1800 °C	2°C	
Hand Torque Tools	2N.m to	1.9 % of rdg. 1.1 % of rdg 0.8 % of rdg 0.4 % of rdg 0.3 % of rdg	Calibrated by using torque calibrator based on ISO 6789-2:2017
	0.3 N.m	3.0% of reading	Calibration using torque transducers
	2.N.m to 1500 N.m	1.0%	
	2.N.m to 1500 N.m	None	2. The CMC quoted is the relative expanded uncertainty at each calibration point
	2.N.m to 1500 N.m	None	
	2.N.m to 1500 N.m	None	
	2.N.m to 1500 N.m	None	
Height Gauge	Up to 300 mm 300 mm to 600 mm	0.007 mm 0.008 mm	Calibrated by using caliper checker & dial test indicator and standard square with reference to
	Up to 300 mm 300 mm to 600 mm	None	JIS B 7517:1993
	0 mm to 600 mm	None	using Caliper
	Up to 600 mm	Where = nominal length	using Gauge
	Up to 600 mm	Where = nominal length	using Gauge
	up to 600 mm	20 um	Measurement of instrument error and
	up to 600 mm	None	parallelism of reference surface with measuring surface of scriber
	up to 600 mm	None	reference to JIS
	up to 600 mm	None	B7517:2018
	Up to 300 mm	(1.8 + 0.009 L) um	Calibration by gauge
	Up to 300 mm	is length in mm	block and precision

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	Up to 300 mm	None	square with reference
	Up to 300 mm	None	to BS EN ISO 13225
	0mm to 600mm	8 μ m	Calibrated using caliper
	0mm to 600mm	None	checker and gauge
	0mm to 600mm	None	block with reference to
	0mm to 600mm	None	JIS B 7517:2018
	Up to 300 mm 300 mm to 1000 mm	6 μ m 13 μ m	Calibrated using Gauge Block, L-square and Dial Gauge. with reference to ISO 13225:2012
	Up to 150 mm 150 mm to 300 mm 300 mm to 600 mm	8 μ m 12 μ m	Calibrated by using caliper checker and gauge block as standards based on JIS B 7517:2018
	0mm to 300 mm 300 mm to 600 mm	11 μ m	caliper checker, gauge block and dial test indicator as
	0mm to 300 mm 300 mm to 600 mm	None	standards according
	0mm to 300 mm 300 mm to 600 mm	None	to JIS B7517:2018
	0mm to 300 mm 300 mm to 600 mm	None	Calibrate by using
	0 mm to 300 mm 300 mm to 600 mm	11 μ m	gauge block and dial test indicator as standards according
	0 mm to 300 mm 300 mm to 600 mm	None	to JIS B7517:2018
	0 inch to 6 inch	0.0003 inch	according to BS EN ISO 13225:2012
Humidity Enclosure	Up to 25 mm	None	
	25 mm to 100 mm frame (25 mm traverse)	None	
	5 °C to 60 °C 20 %rh to 95 %rh	0.2 °C 2.4	Calibrated by using thermohygrometer based on
	5 °C to 60 °C 20 %rh to 95 %rh	None	AS 2853-1986
	5 °C to 40 °C 30 %rh to 90 %rh	0.3 °C 2.4 %rh	Calibrate by using data logger based on AS2853-1986

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Hydraulic	0 bar to 350 bar 350 bar to 700 bar	0.09 bar 0.16 bar	
	0 bar to 350 bar 350 bar to 700 bar	0.09 bar 0.16 bar	
	0 psi to 14500 psi	4 psi	
	14500 psi to 36000 psi	14 psi	
	0 to 10000 psi	2.3 psi	based on
	0 to 10000 psi	None	BS EN 837-1:1998,
	0 to 10000 psi	None	BS EN 837-2:1998 &
	0 to 10000 psi	None	BS EN 837-3:1998
	20 bar to 100 bar	0.4 bar	Pressure Meter
	0 bar to 700 bar 0 bar to 1000 bar	0.14 bar 0.016 % of reading	Calibrated using deadweight tester or by comparison method according to MSA Test Method 1
	0 bar to 700 bar 0 bar to 1000 bar	None	and 2 - 2022
	0 bar to 700 bar	0.59 bar	
	300 bar to 700 bar	0.1 bar	
	700 bar to 2500 bar	0.5 bar	
	300 bar to 700 bar	0.1 bar	
	700 bar to 2500 bar	0.46 bar	
I) Pt 100	-200 °C to 850 °C	None	
	-200 °C to 850 °C	None	
	-200 °C to 850 °C	None	
	-200 °C to 850 °C	None	
	-200 °C to 850 °	0.27 °C	By electrical simulation using calibrator and reference table ITS 90 Calibrate by electrical measurement using Calibrator (Fluke: 5522A)
	-200 °C to 850 °C	0.27 °C	By electrical simulation using calibrator and reference table ITS 90 Calibrate by electrical measurement using Calibrator (Fluke: 5522A)

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	-200 °C to 850 °	0.27 °C	By electrical simulation using calibrator and reference table ITS 90 Calibrate by electrical measurement using Calibrator (Fluke: 5500A)
	-200 °C to 850 °	0.27 °C	By electrical simulation using calibrator and reference table ITS 90 Calibrate by electrical measurement using Calibrator (Fluke: 5500A)
	-200 °C to 800 °C	0.1 °C	
	-200 °C to 0 °C	0.05 °C	
	0 °C to 800 °C	0.3 °C	
	-200 °C to 850 °C	0.1 °C	
	-200 °C to 850 °C	0.2 °C	
	-200 °C to 850 °C	None	
II) Measurement A) Type K	-270 °C to -100 °C	1.1°C 0.2°C	
	-100 °C to 1370 °C		
Liquid-in-glass Thermometer (total & Partial Immersion)	-30 °C to 0 °C 0 °C to 200 °C 200 °C to 400 °C	0.08 °C 0.07 °C 0.35 °C	Comparison with Pt 100 reference in liquid bath and temperature block calibrator
Micrometer (external)	Up to 25 mm 25 mm to 150 mm	0.002 mm 0.003 mm	Calibrated by using gauge block and optical parallel with reference to
	Up to 25 mm 25 mm to 150 mm	None	JIS B7502:2016
	Up to 25 mm	1.9 um	
	0mm to 75 mm 75 mm to 150 mm 150 mm to 200 mm	0.002 mm 0.003 mm 0.004 mm	Calibrated by using gauge block with reference JIS B 7502:2016
	0mm to 75 mm 75 mm to 150 mm 150 mm to 200 mm	0.002 mm 0.003 mm 0.004 mm	Calibrated by using gauge block with reference JIS B 7502:2016
	25, 50	None	optical parallel as
	75, 100, 125, 150	3 um	standards according

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	175, 200, 225	4um	to JIS B7502:2016
	250, 275, 300	5 yum	
	250, 275, 300	None	Calibrate by using
	125, 150	5 yum	optical parallel as
	175	None	standards according
	200	None	to JIS B7502:2016
	225, 250	None	
	275	None	
	300	10 um	
	300	None	Calibrate by using
	300	None	caliper checker,
Precision Caliper (internal & External)	Up to 200 mm 200 mm to 600 mm	0.006 mm 0.012 mm	Calibrated by using caliper checker / gauge block with reference to
	Up to 200 mm 200 mm to 600 mm	None	JIS B7507:2016
	0 mm to 300 mm 300 mm to 600 mm	6 yum	Calibrate by using caliper checker/gauge block as standards according to
	0 mm to 300 mm 300 mm to 600 mm	None	JIS B7507:2016
	25 mm travel for micrometer frame sizes	None	
	(in mm)	None	Calibrate by using
	0 mm to 300 mm 300 mm to 600 mm	6 yum	gauge block and
			Calibrate by using caliper checker/gauge block as standards according to
	0 mm to 300 mm 300 mm to 600 mm	None	JIS B7507:2016
	25 mm travel for micrometer frame sizes	None	
	(in mm)	None	
	25, 50, 75	None	Calibrate by using
	100, 125	None	gauge block and
Pressure Measuring Device	None	None	
	None	None	
	None	None	
	None	None	
	None	None	

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Profile Projector (independent Linear Scale Only)	Up to 140 mm	1.5 μ m	Calibrated by using glass scale with reference to JIS B7184:1999
Standard Weight	2 kg to 25 kg	0.2g	Calibrated using standard weight and comparator as standard according to OIML R111-1:2004 (E)
	1g	0.04 mg	
	2g	0.05 mg	
	5g	0.06 mg	
	10g	0.07 mg	
	20g	0.09 mg	Calibrate using
	50g	0.10 mg	reference standard
	100g	0.17 mg	weight by
	200 g	0.4 mg	comparison method
	500 g	0.002 g	according to ABBA
	1kg	0.006 g	weighing scheme
	2kg	0.02 g	
	5 kg	0.03 g	
	10 kg	0.2g	
	20 kg	0.4g	
	2kg 5 kg 10 kg 20 kg 25 kg	0.2g	Calibrated by using standard weights and weighing comparator
	2kg 5 kg 10 kg 20 kg 25 kg	0.2g	Calibrated by using standard weights and weighing comparator
Stop Watch / Timer	300s 300 s to 3600 s 3600 s to 10800 s	0.19s 0.60 s	Calibrate by using comparison method according to NIST stop watch and timer calibration
	None	0.05 s	
	30s	0.06 s	
	60 s to 300s	0.06 s	
	300 s to 600 s 600 s to 900 s 900 s to 1800s	0.09 s 0.11s	Calibrate by using Stop Watch
	1800 s to 3600 s	0.40 s	
	3600 s to 7200s	0.80 s	
	7200 s to 10800 s	1.25	
	30s	0.05 s	
	30s to 60s	0.06 s	

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	60 s to 300s	0.06 s	Calibrate by using Stop Watch
	300 s to 600s 600 s to 900s 900 s to 1800 s	0.09 s 0.11s	
	1800 s to 3600 s	0.40 s	
	3600 s to 7200 s	0.80 s	
	7200 s to 10800 s	None	
Surface Plate	300 mm x 300 mm 600 mm x 600 mm 1000 mm x 1000 mm 1600 mm x 2500 mm	1.0 μ m 1.9 μ m 2.1 μ m 3.4 μ m	Calibrated by using precision inclinometer with reference to BS 817:2008
	300 mm x 300 mm 1000 mm x 1000 mm	3.2 μ m 6.5 μ m	Calibrate using Planeator with reference to BS 817:2008
	300 mm x 300 mm 1000 mm x 1000 mm	1.8 μ m 3.2 μ m	microindicator and variation gauge as standards according
	300 mm x 300 mm 1000 mm x 1000 mm	None	to BS 817:2008
	300 mm x 300 mm 1000 mm x 1000 mm	None	
	10 °C to 50 °C 20 %rh to 50 %rh 50 %rh to 70 %rh 70 %rh to 90 %rh (at 25 °C)	0.09 °C 1.6 %rh 1.8 %rh 1.9 %rh	Comparison with Thermohygrometer / Pt 100
	(at 25 °C)	None	
Temperature Calibrator 1) Source A) Type K	-270 °C to -100 °C -100 °C to 1370 °C	1.0 °C	
Temperature Controlled Enclosure	-80 °C to -30 °C -30 °C to 100 °C 100 °C to 250 °C 250 °C to 600 °C 600 °C to 1300 °C	0.7 °C 0.6 °C 1.7 °C	Calibrate by using temperature recorder with Pt 100 / thermocouple based on AS 2853-1986
	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 400 °C	4.9 °C 3.5 °C 1.0 °C	Calibrate using Temperature Recorder with Thermocouple sensor with reference to
	-80 °C to -40 °C -40 °C to 0 °C 0 °C to 400 °C	None	DKD-R-5-7
	0 °C to 200 °C (Volume	1.5 °C	Calibrated by using Temperature Data
	0 °C to 200 °C (Volume	None	Logger with
	0 °C to 200 °C (Volume	None	Thermocouple Type K.
	0 °C to 200 °C (Volume	None	

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
	to 150 °C	1.0°C	recorder with thermocouple
	to 150 °C	None	and PRT with
	to 150 °C	None	reference to AS
	to 150 °C	None	2853-1986
	-40 °C to 250 °C 250 °C to 1300 °C	0.6 °C	Calibrated by using temperature recorder with thermocouple
	-40 ?C to 250 ?C 250 ?C to 1300 ?C	0.6 ?C	Calibrated by using temperature recorder with thermocouple
	-30 °C to 100 °C 100 °C to 250 °C 250 °C to 600 °C 600 °C to 1200 °C	0.6 °C 0.6 °C 2.5 °C	Calibrate using temperature recorder & thermocouple based on AS 2853-1986
	0?C to 300?C	1.1?C	Temperature Recorder and TC
	0?C to 300?C	None	Wire based on AS
	0?C to 300?C	None	2853:1986
Temperature Indicating Device (by Electrical Simulation) A) Type K	-270 °C to -100 °C	1.1°C 0.2°C	
	-100 °C to 1370 °C		
	-270 °C to -100 °C	1.1°C	
Temperature Sensor (platinum Resistance Thermometer, Thermocouple, Thermistor)	-100 °C to 1370 °C		
	-30 °C to 0 °C 0 °C to 250 °C 250 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C 1000 °C to 1200 °C	0.08 °C 0.08 °C 0.36 °C 1.0°C 24°C 2.7°C	Comparison with thermocouple reference in: liquid bath and temperature block calibrator
	0 °C to 200 °C 200 °C to 400 °C	0.2°C 0.4°C	Comparison with Pt 100 reference in: liquid bath and temperature block calibrator
Temperature Sensor With Indicator (platinum Resistance Thermometer, Thermocouple, Thermistor, Temperature Gauge)	-30 °C to 0 °C 0 °C to 250 °C 250 °C to 400 °C 400 °C to 600 °C 600 °C to 1000 °C 1000 °C to 1200 °C	0.08 °C 0.07 °C 0.36 °C 1.0°C 2.2°C	Comparison with thermocouple reference in: liquid bath and temperature block calibrator
	0 °C to 200 °C 200 °C to 400 °C	0.08 °C 0.33 °C	Comparison with Pt 100 reference in: liquid bath and temperature block calibrator

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Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
Toolmaker-™s Microscope (independent Linear Scale Only)	Up to 140 mm	1.5 μ m	Calibrated by using glass scale with reference to JIS B 7184:1999
Vacuum Pneumatic	Up to bar 0 mbar to 70 mbar 70 mbar to 700 mbar 0 bar (abs) to 7 bar (abs) 0.7 bar to 6 bar 6 bar to 30 bar	0.002 bar 0.016 mbar 0.14 mbar 0.0011 bar (abs) 0.004 bar 0.008 bar	Calibrated using test gauge as standard according to AS 1349 (1986) and DKD-R-6-1 (edition 01/2003)
	Up to -0.95 bar 0 mbar to 70 mbar 70 mbar to 700 mbar 0 bar (abs) to 7 bar (abs) 0.7 bar to 6 bar 6 bar to 30 bar	0.002 bar 0.016 mbar 0.14 mbar 0.0011 bar (abs) 0.004 bar 0.008 bar	Calibrated using test gauge as standard according to AS 1349 (1986) and DKD-R-6-1 (edition 01/2003)

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SCOPE OF CALIBRATION : FORCE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
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SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks

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SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks

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SCOPE OF CALIBRATION : TEMPERATURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks

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SCOPE OF CALIBRATION : TORQUE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty ($\pm$)*	Remarks
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SITE LOCATION (HQ)	1. TRESICAL (MALAYSIA) SDN. BHD. PMT 2927, JALAN MEGAT HARUN PUSAT PERNIAGAAN MAJU, MALAYSIA
FIELD(S) OF CALIBRATION :	ELECTRICAL (TIME & FREQUENCY)

SCOPE OF CALIBRATION : ELECTRICAL (TIME & FREQUENCY)

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Stop Watch / Timer	0 s to 300 s 300 s to 3600 s 3600 s to 10800 s	0.19 s 0.60 s 1.8 s	Calibrate by using comparison method according to NIST stop watch and timer calibration
	60 rpm to 20000 rpm	1.0 rpm	Calibrated using tachometer