



ACAL-0323-008G

**SCOPE OF ACCREDITATION**  
**INSTRUMENTATION AND**  
**METROLOGY SECTION**  
**METALS INDUSTRY RESEARCH AND**  
**DEVELOPMENT CENTER**  
MIRDC Compound, Gen. Santos Ave., Bicutan, Taguig City

**Calibration**

<b>Classification of Scopes</b>	<b>Measured quantities/ instrument</b>	<b>Range to be calibrated</b>	<b>Calibration and Measurement Capability (CMC)*</b>	<b>Standard Method/ Reference Standard</b>
<b>Masses</b>				
Determination of Mass	Determination of Mass	Up to 5 kg	0.001% of load	INSCMP 085, 086, 097
		Above 5 kg to 15 kg	0.008% of load	
<b>Weighing devices</b>				
Precision laboratory balances	Analytical balances	up to 200 g	0.9 ppm of	On-Site Calibration INSCMP 058
		200 g to 1 kg	Capacity 1 ppm of capacity	
Industrial balances	Top Loading	up to 100 kg	3 ppm of capacity	On-Site Calibration INSCMP 059, 060, 061, 091
	Triple Beam Balance			
	Weighing Scale			
	Two Pan Balance			
Industrial weighing appliances	Top Loading	up to 100 kg		On-Site Calibration INSCMP 059, 060, 061, 091
	Triple Beam Balance	@ 50 g graduation	0.03% of capacity	
	Weighing Scale	@ 100 g graduation	0.06% of capacity	
	Two Pan Balance	@ 200 g graduation	0.12% of capacity	
Other weighing devices	Top Loading	up to 100 kg		On-Site Calibration INSCMP 059, 060, 061, 091
	Triple Beam Balance	@ 50 g graduation	0.03% of capacity	
	Weighing Scale	@ 100g graduation	0.06% of capacity	
	Two Pan Balance	@ 200g graduation	0.12% of capacity	
<b>Dimensional Precision Instrument</b>				
Ultrasonic Flaw Detector	Ultrasonic Flaw Detector	Horizontal Linearity	0.01% of scale division	On-Site Calibration INSCMP 026
		Vertical Linearity	0.01% of scale division	
<b>Pressure and Vacuum Measuring Devices</b>				



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Pressure Gauges	Pressure Gauges	0 to 20000 psi	0.012 % of reading	On-Site Calibration INSCMP 047, 048, 073, 074, 075
Pressure Transducers/ Transmitter	Pressure Transducers/ Transmitter	0 to 500 psi	0.012 % of reading	On On-Site Calibration INSCMP 053, 054, 055, 056, 076
		0 to 10000 psi	0.02 % of reading	
Pressure Recorders	Pressure Recorders	0 to 20000 psi	0.012 % of reading	On-site Calibration INSCMP 047, 048, 073, 074, 075
Mercury Manometers	Mercury Manometers	0 to 300 psi	0.012 % of reading	INSCMP 051
Other Liquid Manometers	Other Liquid Manometers	0 to 300 psi	0.012 % of reading	INSCMP 051
Digital Manometers	Digital Manometers	0 to 300 psi	0.012 % of reading	INSCMP 051
Pressure Control Devices	Pressure Control Devices	0 to 1600 psi	0.3 % of full-scale	On-Site Calibration INSCMP 052, 053, 054, 055, 056
<b>Pressure Gauge Testers</b>				
Pneumatic Operated Piston Gauges	Pneumatic Operated Piston Gauges	0 to 300 psi	0.05 % of reading	INSCMP 085

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Hydraulic Operated Piston Gauges	Hydraulic Operated Piston Gauges	0 to 10000 psi	0.05 % of reading	INSCMP 086
Pressure Calibrators	Pressure Calibrators	0 to 300 psi	0.012 % of reading	INSCMP 051
<b>Force Measuring Devices</b>				
Elastic Force Measuring Devices/ Proving Ring in Tensile Testing Machine	Elastic Force Measuring Devices/ Proving Ring in Tensile Testing Machine	up to 500 g	0.5 % of load	On-Site Calibration INSCMP 057, 062, 063
		up to 100 kg	0.012 % of load	
		@ 50 g graduation	0.03 % of load	
		@ 100 g graduation	0.06 % of load	
		@ 200 g graduation	0.12 % of load	
Force gauges	Force gauges	up to 300 g	0.5 % of load	On-Site Calibration INSCMP 057, 062, 063
		up to 100 kg	0.012 % of load	
Other Devices	Other Devices	up to 300 g	0.5 % of load	On-Site Calibration INSCMP 057, 062, 063
		up to 100 kg	0.012 % of load	
		@ 50 g graduation	0.03 % of load	
		@ 100 g graduation	0.06 % of load	
		@ 200 g graduation	0.12 % of load	
<b>Speed Measuring Devices</b>				
Tachometer	Tachometer	0 – 60,000rpm	0.01%	INSCMP 105
<b>Torque Measuring Devices</b>				
Torque Wrenches/ Drivers	Torque Wrenches/ Drivers	0 to 1000 kgf-cm	1.7 kgf-cm	INSCMP 099
Torque Transducers/ Analyzers/Meters	Torque Transducers/ Analyzers/Meters	0 to 10 kgf-cm	0.001 kgf-cm	INSCMP 098
		10 to 400 kgf-cm	0.006 kgf-cm	
		400 to 1000 kgf-cm	0.06 kgf-cm	
<b>Resistors, Resistance Boxes and Potential Dividers</b>				



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Precision Resistors	Precision Resistors	0.1 mΩ	0.01 %	INSCMP 020
		1 mΩ	0.01 %	
		10 mΩ	0.001 %	
		100 mΩ	0.001 %	
		1 Ω	0.001 %	
		10 Ω	0.001 %	
		100 Ω	0.02 %	
		1 kΩ	0.02 %	
		10 kΩ	0.01 %	
		100 kΩ	0.01 %	
1 MΩ	0.01 %			
Resistance boxes	Resistance boxes	10 mΩ to 1 GΩ	0.01 %	INSCMP 009
Decade Resistance Boxes	Decade Resistance Boxes	10 mΩ to 1 GΩ	0.01 %	INSCMP 010
Volt ratio boxes	Volt ratio boxes	1 mV to 1000 V	0.001 %	INSCMP 022
Potential dividers	Potential dividers	1 mV to 1000 V	0.001 %	INSCMP 022
DC Shunts	DC Shunts	1 mA to 50 A	0.1 %	INSCMP 066
AC Shunts	AC Shunts	1 mA to 50 A	0.5 %	INSCMP 067
<b>Electrical Instrument Calibrators</b>				
DC voltage	DC voltage	0 to 1100 V	0.001 %	On-Site Calibration INSCMP 022, 065
AC voltage	AC voltage	0 to 1100 V	0.01 %	On-Site Calibration INSCMP 023, 065
DC Current	DC Current	0 to 100 A	0.01 %	On-Site Calibration INSCMP 024, 065

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AC Current	AC Current	0 to 50 A	0.05 %	On-Site Calibration INSCMP 025, 065
Resistance	Resistance	0 to 10 G $\Omega$	0.001 %	On-Site Calibration INSCMP100, 065
<b>Electrical Indicating and Recording instruments</b>				
DC voltmeter	DC voltmeter	0 to 50 mV	0.002 %	On-site Calibration INSCMP 014, 065
		51 mV to 1000 V	0.001 %	
AC voltmeter	AC voltmeter	0 to 100 mV	0.01 %	On-Site Calibration INSCMP 014, 065
		101 mV to 1000 V	0.006 %	
DC ammeter	DC ammeter	0 to 1 mA	0.01 %	On-Site Calibration INSCMP 003, 066
		1.1 mA to 100 mA	0.000 %	
		101 mA to 2 A	0.03 %	
		3 A to 11 A	0.05 %	
		12 A to 50 A	0.08 %	
AC ammeter	AC ammeter	0 to 1 mA	0.09 %	On-Site Calibration INSCMP 004, 065
		1.1 mA to 100 mA	0.06 %	
		101 mA to 11 A	0.03 %	
		12 A to 20 A	0.1 %	
		21 A to 50 A	0.1 %	
Wattmeter	Wattmeter	0 to 20 kW	0.1 %	On-Site Calibration INSCMP 016, 065
Power Factor Meter	Power Factor Meter	0.2 to 1.0	1 %	INSCMP 065, 101
Ohmmeter	Ohmmeter	0.1 m $\Omega$	0.6 %	On-Site Calibration INSCMP 008, 065
		1 m $\Omega$	0.06 %	
		10 m $\Omega$	0.06 %	
		100 m $\Omega$	0.006 %	
		1 $\Omega$	0.0001 %	



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		10 Ω	0.0015 %	
		100 Ω	0.0015 %	
		1 kΩ	0.0002 %	
		10 kΩ	0.001 %	
		100 kΩ	0.001 %	
		1 MΩ	0.002 %	
		10 MΩ	0.004 %	
		100 MΩ	0.01 %	
		1 GΩ to 110 GΩ	0.1 %	
LCR Meter	Capacitance meter	0.33 nF to 3.3 nF	2 %	On-site Calibration INSCMP 065, 093
		3.4 nF to 330 nF	0.2 %	
		331 nF to 110 mF	0.1 %	
<b>Graphic Recording Instrument</b>				
@ DC Voltage	@ DC Voltage	0 to 50 mV	0.002 %	On-Site Calibration INSCMP 014, 018
		51 mV to 1000 V	0.001 %	
@ AC Voltage	@ AC Voltage	0 to 100 mV	0.01 %	On-Site Calibration INSCMP 014, 018
		101 mV to 1000 V	0.006 %	
@ DC Ammeter	@ DC Ammeter	0 to 1 mA	0.01 %	On-Site Calibration INSCMP 003, 018
		1.1 mA to 100 mA	0.000 %	
		101 mA to 2 A	0.03 %	
		3 A to 11 A	0.05 %	
		12 A to 50 A	0.08 %	
@ AC Ammeter	@ AC Ammeter	0 to 1 mA	0.09 %	On-Site Calibration INSCMP 004, 018
		1.1 mA to 100 mA	0.06 %	
		101 mA to 11 A	0.03 %	
		12 A to 50 A	0.1 %	
@ Resistance	@ Resistance	0.1 mΩ	0.6 %	On-Site Calibration INSCMP 008, 018
		1 mΩ	0.06 %	
		10 mΩ	0.06 %	



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		100 mΩ	0.006 %	
		1 Ω	0.0001 %	
		10 Ω	0.0015 %	
		100 Ω	0.0015 %	
		1 kΩ	0.0002 %	
		10 kΩ	0.001 %	
		100 kΩ	0.001 %	
		1 MΩ	0.002 %	
		10 MΩ	0.004 %	
		100 MΩ	0.01 %	
		1 GΩ to 110 GΩ	0.1 %	
<b>Digital Multimeters/ Analog Multimeters (up to 6 ½ digit)</b>				
	@ DC voltage	0 to 50 mV 51 mV to 1000 V	0.002 % 0.001 %	On-Site Calibration INSCMP 017, 018, 065
	@ AC voltage	0 to 100 mV 101 mV to 1000 V	0.01 % 0.006 %	
	@ DC ammeter	0 to 1 mA 1.1 mA to 100 mA 101 mA to 2 A 3 A to 11 A 12 A to 50 A	0.01 % 0.000 % 0.03 % 0.05 % 0.08 %	
	@ AC ammeter	0 to 1 mA 1.1 mA to 100 mA 101 mA to 11 A 12 A to 50 A	0.09 % 0.06 % 0.03 % 0.1 %	
	@ Resistance	0.1 mΩ 1 mΩ 10 mΩ 100 mΩ 1 Ω	0.6 % 0.06 % 0.06 % 0.006 % 0.0001 %	

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		10 $\Omega$ 100 $\Omega$ 1 k $\Omega$ 10 k $\Omega$ 100 k $\Omega$ 1 M $\Omega$ 10 M $\Omega$ 100 M $\Omega$ 1 G $\Omega$ to 110 G $\Omega$	0.0015 % 0.0015 % 0.0002 % 0.001 % 0.001 % 0.002 % 0.004 % 0.01 % 0.1 %	
Resistivity meters	Resistivity meters	0 to 110 G $\Omega$	0.1 %	On-Site Calibration INSCMP 065, 083
Clamp Meters	Clamp Meters	1 to 10 A 11 to 30 A 31 to 40 A 41 to 220 A 221 to 500 A 501 to 1000 A	4 % 2 % 1.5 % 1.0 % 0.5 % 0.5 %	On-Site Calibration INSCMP 001, 002, 065
Other Instruments	Insulation tester	0 to 10 G $\Omega$	0.1 %	On-Site Calibration INSCMP 007, 065
	Earth resistance tester	0 to 100 M $\Omega$	0.1 %	On-Site Calibration INSCMP 065, 070
	Groundstrap tester	0 to 110 G $\Omega$	0.1 %	On-Site Calibration INSCMP 065, 071
	Electronic Load (voltage & current output only)	0 to 100 V 0 to 50 A	0.01 % 0.1 %	On-Site Calibration INSCMP 077, 065
<b>Bridges, potentiometers, test sets</b>				
DC bridges	DC bridges	0.1 m $\Omega$	0.6 %	On-Site Calibration INSCMP 011, 012, 013, 065
		1 m $\Omega$	0.06 %	
		10 m $\Omega$	0.06 %	





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		100 mΩ	0.006 %	
		1 Ω	0.0001 %	
		10 Ω	0.0015 %	
		100 Ω	0.0015 %	
		1 kΩ	0.0002 %	
		10 kΩ	0.001 %	
		100 kΩ	0.001 %	
		1 MΩ	0.002 %	
		10 MΩ	0.004 %	
		100 MΩ	0.01 %	
DC potentiometer	DC potentiometer	0 to 1100 V	0.001 %	INSCMP 022, 065
AC potentiometer	AC potentiometer	0 to 1100 V	0.01 %	INSCMP 023, 065
Current transformer testing sets	Current transformer testing sets	0 to 50 A	0.5 %	INSCMP 066, 067
Voltage transformer testing sets	Voltage transformer testing sets	0 to 1100 V	0.01 %	INSCMP 084
<b>Frequency and time measuring instruments and standards</b>				
Frequency meter	Frequency meter	1 Hz to 2 MHz	0.006 %	On-Site Calibration INSCMP 090, 065
Time Interval Meter	Time Interval Meter	0.1 to 900 sec.	0.06 sec.	On-Site Calibration INSCMP 094
		901 to 1800 sec.	0.6 sec.	
Clocks and Watches	Clocks and Watches	0.1 to 900 sec.	0.06 sec.	On-Site Calibration INSCMP 094
		901 to 1800 sec.	0.6 sec.	
<b>Power Supplies</b>				
DC Power Supply	DC Power Supply (Voltage and current output only)	0 to 1100 V	0.001 %	On-Site Calibration INSCMP 022, 024, 065
		0 to 100 A	0.01 %	

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<b>Signal Sources</b>				
Frequency Characteristics	Frequency Characteristics	40 Hz to 300 kHz	0.001 %	On-Site Calibration INSCMP 102, 065
<b>High Voltage Equipment</b>				
Direct Voltage Tests	Direct Voltage Tests (High Voltage Tester)	0 to 10 kV DC	0.1 %	On-Site Calibration INSCMP 006, 065
	Direct Voltage Tests (High Voltage Meter)	0 to 10 kV DC	0.1 %	On-Site Calibration INSCMP 005, 065
Alternating Voltage Tests	Alternating Voltage Tests (High Voltage Tester)	0 to 10 kV AC	0.1 %	On-Site Calibration INSCMP 006, 065
	Alternating Voltage Tests (High Voltage Meter)	0 to 10 kV AC	0.3 %	On-Site Calibration INSCMP 005, 065
<b>Calibration of Temperature Measurement Equipment</b>				
Rare Metal Thermocouples	Rare Metal Thermocouples	-30 to 600 °C	0.12 °C	INSCMP 069
		600 to 800 °C	1.7 °C	
		600 to 1000°C	1.7 °C	
Base Metal Thermocouples	Base Metal Thermocouples	-30 to 250 °C	0.12 °C	INSCMP 038, 039, 040
		250 to 600 °C	0.64 °C	
		600° to 1000°C	1.7 °C	
Metallic Resistance Thermometers	Metallic Resistance Thermometers	-30 to 250 °C	0.12 °C	INSCMP 037
		250 to 450 °C	0.64 °C	
Liquid-in-Glass Thermometers	Liquid-in-Glass Thermometers	-30 to 250 °C	0.12 °C	INSCMP 035, 042, 043

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Vapour Pressure Thermometers	Vapour Pressure Thermometers	-30 to 250 °C	0.12 °C	INSCMP 041
		250 to 450 °C	0.64 °C	
Filled Metal Systems	Filled Metal Systems	-30 to 250 °C	0.12 °C	INSCMP 041
		250 to 450 °C	0.12 °C	
Bimetallic Systems	Bimetallic Systems	-30 to 250 °C	0.12 °C	INSCMP 041, 046
		250 to 500 °C	0.64 °C	
Digital Temperature Indicator Systems	Digital Temperature Indicator Systems	-30 to 250 °C	0.12 °C	INSCMP 038, 039, 040
		250 to 500 °C	0.64 °C	
		500 to 1000 °C	1.7 °C	
<b>Calibration of Ancillary Temperature Measuring Instruments</b>				
Portable potentiometers	Portable potentiometers	0 to 1100 V	0.001 %	INSCMP 019, 022, 027, 065
Digital Voltmeters	Digital Voltmeters	0 to 50 mV	0.01 %	On-Site Calibration INSCMP 014, 018, 065
		51 to 1000 V	0.001 %	
Resistance Bridges	Resistance Bridges	0.1 mΩ	0.60 %	INSCMP 008, 088, 065
		1 mΩ	0.06 %	
		10 mΩ	0.06 %	
		100 mΩ	0.006 %	
		1 Ω	0.0001 %	
		10 Ω	0.0015 %	
		100 Ω	0.0002 %	
		1 kΩ	0.001 %	
10 kΩ	0.001 %			
Indicators, Recorders and Controllers	Indicators, Recorders and Controllers	-200 to 1800 °C	0.16 °C	On-Site Calibration INSCMP 028, 029, 030, 031, 032, 033, 065, 068, 087
Temperature Transmitters	Temperature Transmitters	-200 to 1800 °C	0.16 °C	On-Site Calibration INSCMP 065, 072

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(T/C and RTD)	(T/C and RTD)			
Other Equipment:	Digital Thermometer w/ Probe and Temperature Data Loggers w/ Probe	-200 to 1800 °C	0.16 °C	On-Site Calibration INSCMP 028, 029, 030, 031, 032, 033, 065, 068, 087
<b>Calibration of Clinical Thermometers</b>				
Liquid-in-Glass thermometers	Liquid-in-Glass thermometers	35 to 42 °C	0.12 °C	INSCMP 043
Electronic thermometer	Electronic thermometer	35 to 42 °C	0.12 °C	INSCMP 038, 039, 040
<b>Testing of Temperature Controlled Enclosures</b>				
Ovens, Incubators and Baths	Ovens, Incubators and Baths	-30 to 250 °C	0.7 °C	On-Site Calibration INSCMP 044, 045, 089, 095
Autoclaves and Sterilizing Ovens Industrial Freezers	Autoclaves and Sterilizing Ovens	0 to 200 °C	0.7 °C	On-Site Calibration INSCMP 044
	Industrial Freezers	- 30 to ambient	0.7 °C	On-Site Calibration INSCMP 044
Other Enclosures	Digester, Chiller, Rotary Evaporator	-30 to 250 °C	0.7 °C	On-Site Calibration INSCMP 044, 045, 089, 095
		100 to 500 °C	2.0 °C	
	Dry Block	-30 to 500 °C	0.11 °C	On-Site Calibration 095
<b>Hygrometry</b>				
Calibration of Humidity Measuring Devices	Thermohygrometers, Thermohygrographs	20 to 26 °C	0.3 °C	INSCMP 034
		40 to 70 % R.H.	2.0 % R.H.	



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<b>Engineering metrology equipment</b>					
Caliper	Calibration of Vernier Caliper	0-150 mm	8 µm	JIS B 7507:2016	
		0-200 mm	8 µm		
		0-300 mm	8 µm		
		0-450 mm	8 µm		
		0-600 mm	8 µm		
	Calibration of Dial Caliper	0-150 mm	7 µm		
		0-200 mm	8 µm		
		0-300 mm	8 µm		
		0-450 mm	8 µm		
		0-600 mm	8 µm		
	Calibration of Digital Caliper	0-150 mm	6 µm		
		0-200 mm	7 µm		
		0-300 mm	8 µm		
0-450 mm		8 µm			
0-600 mm		8 µm			
Micrometer	Calibration of External/Outside Micrometer	0-25mm	0.8 µm	JIS B 7502:2016	
		25-50mm	0.8 µm		
		50-75mm	0.8 µm		
		75-100mm	1.2 µm		
		100-125mm	1.2 µm		
		125-150mm	1.2 µm		
	Calibration of Digital External/ Outside Micrometer	0-25mm	0.8 µm		
		25-50mm	0.8 µm		
		50-75mm	0.8 µm		
		75-100mm	1.4 µm		
		100-125mm	1.7 µm		
		125-150mm	2.02 µm		
	Calibration of Internal/ Inside	0-25 mm micrometer head	0.8 µm		JIS B 7502:2016



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**Calibration**

<b>Classification of Scopes</b>	<b>Measured quantities/ instrument</b>	<b>Range to be calibrated</b>	<b>Calibration and Measurement Capability (CMC)*</b>	<b>Standard Method/ Reference Standard</b>
	Micrometer (Tubular Type)			
Dial Gauge	Calibration of Dial Gauge	0.01 mm resolution	0.6 µm	JIS B 7503:2015
		0.001 and 0.002 mm resolutions	0.6 µm	
Dial Test Indicator	Calibration of Dial Test Indicator (Lever type)	0.01 mm resolution 0.001 and 0.002 mm resolutions	0.6 µm 0.6 µm	JIS B 7533:2015
Height Setting Micrometer	Calibration of Height Setting Micrometer (Height Master)	0 – 300 mm	0.8 µm	AS 3779-1990 (ISO 863:1984)
Vernier Height Gauge	Calibration of Vernier Height Gauge	0-150 mm	8 µm	JIS B 7517:1993
		0-200 mm	8 µm	
Dial Height Gauge	Calibration of Dial	0-300mm	8 µm	
		0-450mm	8 µm	
		0-600mm	8 µm	
		0-150mm	4 µm	
		0-200mm	4 µm	
		0-300mm	5 µm	
		0-450mm	7 µm	
		0-600mm	9 µm	
Digital Height Gauge	Calibration of Digital Height Gauge	0-150mm	4µm	JIS B 7517:1993
		0-200mm	4µm	
		0-300mm	5µm	
		0-450mm	7µm	
		0-600mm	9µm	
Gauge Block	Calibration of Steel Gauge Block	0.5-10mm	0.058µm	AS 1457-1999 (ISO 3650:1998)
		10-25mm	0.062µm	

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		25-50mm	0.086µm	
		50-75mm	0.116µm	
		75-100mm	0.149µm	
Ceramic Gauge Block	Calibration of Ceramic Gauge Block	0.5-10mm	0.058µm	AS 1457-1999 (ISO 3650:1998)
		10-25mm	0.062µm	
		25-50mm	0.084µm	
		50-75mm	0.113µm	
		75-100mm	0.144µm	
Bevel Protractor	Calibration of Bevel Protractor	0 - 90°	3.6 arc-min	BS 1685:1959
Precision Spirit Level	Calibration of Precision Spirit Level	0.01mm/m x 200mm	1.7 Arc-sec	BS 958:1968
Standard Glass Scale	Calibration of Standard Glass Scale	0-100mm	0.7µm	JIS B 7541:1973 (Revised 2001)
		0-200mm	0.8µm	
		0-300mm	0.9µm	
Steel/Metal Rule	Calibration of Steel/Metal Rule	0-200mm	9µm	JIS B 7516:1987
		0-300mm	9µm	
		0-600mm	12µm	
		0-1000mm	16µm	
Feeler Gauge and Slip Gauges	Calibration of Feeler Gauge and Slip Gauges	0.01 - 0.35mm	1.1µm	JIS B 7524:1992
		0.35 - 3mm	1.1µm	
Plug Gauge (Fixed or Go-No-Go gauge)	Calibration of Plug	up to 100mm	1.2µm	JIS B 7420:1997
Surface Plate	Calibration of Surface Plate	up to 2900mm diagonal length	0.6µm	On-Site Calibration AS1004.1-1998(ISO8512-1:1990)

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Optical/Profile Projector	Calibration of Optical/Profile Projector	up to 200mm	2.3 $\mu$ m or 1.2 arc-min	On-Site Calibration MTR-CMP-017
CNC Machine Tools	Calibration of CNC Machine Tools	max of 30m	$U_{95} = 0.24 + L/800$	On-Site Calibration MTR-CMP-018
Toolmaker's Microscope/ Measuring microscope	Calibration of Toolmaker's Microscope/ Measuring microscope	up to 200mm	2.3 $\mu$ m (Linear) 0.6 arc-min (Angular)	On-Site Calibration JIS B 7150:1995
Pin Gauge	Calibration of Pin Gauge	up to 12mm	0.7 $\mu$ m	MTR-CMP-021
Depth Micrometer	Calibration of Depth Micrometer	0.01 x 25mm	0.8 $\mu$ m	JIS B 7544:1994
Digital Depth Micrometer	Calibration of Digital Depth Micrometer	0.001 x 25mm	1.7 $\mu$ m	JIS B 7544:1994
Vernier Depth Gauge	Calibration of Vernier Depth Gauge	0-150mm	8 $\mu$ m	JIS B 7518:1993
		0-150mm	9 $\mu$ m	
		0-150mm	12 $\mu$ m	
Precision Square	Calibration of Precision Square	600mm max	1.8 $\mu$ m or 1.5 arc-min	JIS B 7526:1995
Micrometer Head	Calibration of Micrometer Head	0-25mm	0.8 $\mu$ m	JIS B 7502:2016
Indicating Micrometer	Calibration of Indicating Micrometer	0-25 mm	1.2 $\mu$ m	JIS B 7520:1981
Steel Straight Edge	Calibration of Steel Straight Edge	up to 1000mm	1.2 $\mu$ m	JIS B 7514:1977
Cylinder/Bore	Calibration of	0-100mm	0.7 $\mu$ m	JIS B 7515:1982



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Gauge	Cylinder/Bore Gauge			
Rockwell Hardness/ Rockwell Superficial Hardness Tester	Calibration of Rockwell Hardness/ Rockwell Superficial Hardness Tester	C - Scale	1.1 of scale reading	On-site Calibration ASTM E 18 – 2017
		B - Scale		
		30N - Scale		
		30T - Scale		
Universal Testing Machine	Calibration of Universal Testing Machine	5 - 200Ton	1% max.	On-site Calibration ASTM E 4 - 2013
Microindicator	Calibration of Microindicator	± 0.05mm	0.6µm	JIS B 7519:1976
Indicator	Calibration of Digimatic Indicator and Long Range Dial Indicator	up to 150mm for 0.001mm res.	0.8µm	MTR-CMP-032
Electrical Comparator (Mu-Checkers)	Calibration of Electrical Comparator (Mu-Checkers)	0.1µm & 0.2µm	0.1µm	JIS B 7536:1982
		0.5µm	0.3µm	
		1µm	0.3µm	
		5µm	1.3µm	
		10µm	2.5µm	
Universal Measuring Machine	Calibration of Universal Measuring Machine	0 - 400mm	1.0µm	MTR-CMP-034
Precision Square Master	Calibration of Precision Square Master	up to 600mm	0.7µm	MTR-CMP-035
Dial/Digital Thickness Gauge	Calibration of Dial/Digital	up to 25mm for 0.01mm res.	0.8µm	MTR-CMP-036

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	Thickness Gauge (Non-removable handle type)			
Internal Micrometer	Calibration of Internal Micrometer (Caliper type)	up to 100mm for 0.01mm res.	0.8µm	MTR-CMP-038
Microindicator	Calibration of Digital Microindicator and 0.01mm Microindicator	up to 1mm	0.6µm	MTR-CMP-039
Tooth Thickness Micrometer	Calibration of Tooth Thickness Micrometer (Disk type)	up to 100mm	0.8µm	JIS B 7502:2016
Carpenter's Square	Calibration of Carpenter's Square	up to 600mm	2.2µm	JIS B 7534:1987
Check Master	Calibration of Check Master (Step Gauge)	up to 600mm	0.7µm	MTR-CMP-044
Caliper Checker	Calibration of Caliper Checker (Step Gauge)	up to 600mm	0.7µm	MTR-CMP-045
Bubble Tube Tester	Calibration of Bubble Tube Tester	up to 300mm	1.4 Arc-sec	MTR-CMP-047
Calibration Tester	Calibration of Calibration Tester	0.001x25mm	0.6µm	MTR-CMP-048
		0.0002 x 5mm	0.3µm	
Setting Rod	Calibration of	25 - 150mm	0.9µm	BS 870:1959/JIS B



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	Setting Rod			
Combination Set	Calibration of Combination Set	up to 500mm	5µm	MTR-CMP-050
Jjgs and Fixtures	Measurement of Jjgs and Fixtures, Test Sieves, Vicat Apparatus	up to 500mm	5µm	MTR-CMP-019
Cutting Tool	Measurement of Cutting Tool	up to 500mm	5µm	MTR-CMP-019
Measurement of Machine part/	Measurement of Machine part/ components	up to 500mm	5µm	MTR-CMP-019
Brinell Hardness tester	Calibration of Brinell Hardness tester	96 to 650 HBW	1 HBW	ASTM E-10

\* CMC expressed as an expanded uncertainty having a specific coverage probability of approximately 95%

Legend to Reference Standards:  
 AS – Australian Standard  
 ASTM – American Society for Testing and Materials  
 BS – British Standard  
 ISO – International Organization for Standardization  
 JIS – Japanese Industrial Standard

  
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