

Metrology Unit

List of Calibration Services

Calibration Code	List of calibration services
Mass (WM)	
WM 01	Mass pieces (1 mg to 20 kg) A. Class F ₁ B. Class F ₂ C. Class M ₁
WM 02	A. Precision balance ($d \leq 0.1$ mg) B. Precision balance ($0.1 \text{ mg} \leq d \leq 1$ g) C. Electronic top-loading balance ($d > 1$ g) (up to 100 kg)
Pressure (WP)	
WP 01	A. Pressure gauge-(up to 1000 bar) B. Pressure transmitter-(up to 1000 bar) C. Vacuum gauge
Force (WF)	
WF 01	A. Tensile testing machine (up to 2000 kN) B. Compression machine (up to 2000 kN) C. Proving ring (601 to 2000 kN) D. Load cell (601 to 2000 kN) E. Hydraulic Jack (601 to 2000 kN) F. Hydraulic Jack (up to 600 kN) G. Proving ring (up to 600 kN) H. Load Cell (up to 600 kN)
Length (WL)	
WL 01	A. Stainless steel scale (up to 1.0 m) B. One piece rigid or semi rigid scale (up to 1.5 m)

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| | C. Tapes 3m
D. Tapes 5m
E. Tapes 10m
F. Tapes 15m
G. Tapes 30m
H. Tapes 40m |
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Calibration Code	List of calibration services
Length (WL)	
WL 02	<ul style="list-style-type: none"> A. Micrometer (up to 600 mm) B. Caliper (vernier/digital) (up to 1000mm) C. Dial thickness gauge (up to 50 mm), etc. D. Depth gauge E. Try square F. Height gauge G. Setting gauge H. Gauge block
WL 03	Feeler gauge (up to 18 blades)
Electrical (WE)	
WE 01	<ul style="list-style-type: none"> A. Digital multimeter (portable type) B. Digital multimeter (bench type) C. Digital multimeter (high accuracy) D. Analogue multimeter (portable type) E. Ohmmeter F. Insulation tester G. Analogue ammeter H. Analogue voltmeter I. Analogue avometer J. Thermocouple simulator (mV) K. Ohmmeter (use of primary standard resistors)
Temperature (WT)	
WT 01	<ul style="list-style-type: none"> A. Liquid-in-glass thermometer (up to 100°C) B. Liquid-in-glass thermometer (up to 180°C) (5 Calibration points)
WT 02	<ul style="list-style-type: none"> A. Temperature gauge (up to 100°C) B. Temperature gauge (up to 400°C) C. Digital thermometer (up to 100°C) D. Digital thermometer (up to 400°C) (5 calibration points)

WT 03	A. Hygrometer (wet and dry bulb type) B. Max and Min. thermometer C. Oven (1 calibration point) D. Incubator (1 calibration point) E. Liquid bath (1 calibration point) F. Cold room (1 calibration point) G. Refrigerator / freezer
Physico-Chemical (WPC)	
WPC 01	A. pH-meter (3 points)

Accredited measurement scopes

	Measured Quantity of type of Gauge or Instrument	Range of Measured Quantity	Calibration and Measurement Capabilities expressed as an Uncertainty (\pm)
A	Mass		
1	<i>Mass pieces</i>	1 g	0.03 mg
		2 g	0.04 mg
		5 g	0.05 mg
		10 g	0.07 mg
		20 g	0.08 mg
		50 g	0.10 mg
		100 g to 20 kg	0.00016%
2	<i>Weighing instruments</i>		
	Digital self-indicating	1 mg to 50 g	0.1 mg
		50 g to 2000 g	0.00025%
		2 kg to 12 kg	0.001%
		12 kg to 20 kg	0.005%
3	<i>On Site Calibration of Items</i>	Items 2 above	
B	Dimensional Calibrations		
1	<i>Linear dimensions</i>		
	Line standards: Engineer's steel rule	(1 to 1000) mm	0.10 mm
2	<i>Various dimensional Hand instruments</i>		

	External micrometer	(0 to 125) mm	4.0 μm
	Caliper	(0 to 300) mm	10 μm
	Dial gauge	(0 to 30) mm	5.0 μm
C	Temperature		
1	Ice point reference	0.0 $^{\circ}\text{C}$	0.05 K
2	Thermometers: Liquid-in-glass	(0 to 70) $^{\circ}\text{C}$	0.2 K
		(70 to 100) $^{\circ}\text{C}$	0.9 K

Note: Calibration and measurement capability (CMC) expressed as an expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor $k = 2$, corresponding to a confidence level of approximately 95%.