

Laboratory Bagson Calibration Lab Pvt. Ltd., B-14, DSIDC Complex, Patparganj Industrial Area, Delhi
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2555 **Page** 1 of 20
Validity 03.02.2018 to 02.02.2020 **Last Amended on** 07.02.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>ELECTRO TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage ^{\$}	1 mV to 100 mV 100 mV to 1 V 1 V to 1000 V	0.14 % to 0.004 % 0.004 % to 0.002 % 0.002 %	Using Fluke-5522A Multi product Calibrator by Direct Method
2.	DC Current ^{\$}	30 μ A to 100 μ A 100 μ A to 100 mA 100 mA to 3 A 3 A to 10 A 10 A to 20 A 50 A to 1000 A	0.52 % to 0.27 % 0.27 % to 0.16 % 0.16 % to 0.08 % 0.08 % to 0.15 % 0.15 % to 0.21 % 0.06 % to 1 %	Using Fluke-5522A Multi product Calibrator with 50 Turns coil by Direct Method
3.	AC Voltage ^{\$}	50 Hz to 1 kHz 10 mV to 1 V 1 V to 1000 V	0.11 % to 0.04 % 0.04 %	Using Fluke-5522A Multi product Calibrator by Direct Method
4.	AC Current ^{\$}	50Hz to 1kHz 30 μ A to 100 μ A 100 μ A to 100 mA 100 mA to 1 A 50 Hz 1 A to 10 A 10 A to 20 A 50 A to 1000 A	0.52 % to 0.27 % 0.27 % to 0.16 % 0.16 % to 0.08 % 0.08 % to 0.15 % 0.15 % to 0.21 % 1.2 %	Using Fluke-5522A Multi product Calibrator with 50 Turns coil by Direct Method
5.	DC Resistance ^{\$}	1 m Ω 10 m Ω 100 m Ω 1 Ω	0.55 % 0.23 % 0.23 % 0.12 %	Using Resistance Box (Discrete Values) by Direct Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
	Resistance ^{\$}	1 Ω to 100 Ω 100 Ω to 100 k Ω 100 k Ω to 1 M Ω 1 M Ω to 100 M Ω 100 M Ω to 1000 M Ω	0.12 % to 0.004 % 0.004 % 0.004 % to 0.007 % 0.007 % to 0.07 % 0.07 % to 1.73 %	Using Fluke-5522A Multi product Calibrator by Direct Method
	High Resistance ^{\$}	50 M Ω 100 M Ω 500 M Ω 1 G Ω 2 G Ω	3.4 % 3.4 % 3.4 % 3.4 % 4.0 %	Using Mega Ohm Box Sigma (Discrete Values) by Direct Method
6.	Frequency ^{\$}	10 Hz to 1 MHz	0.007 %	Using Fluke-5522A Multi product Calibrator by Direct Method
7.	Capacitance ^{\$}	1 kHz 100 pF to 10 μ F	2.26 %	Using Decade Capacitance box Sigma by Direct Method
8.	Inductance ^{\$}	1 kHz 100 μ H to 10 H	2.26 %	Using Std. Inductance Box LDB-6 by Direct Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
9.	Temperature ^{\$} RTD-PT100 J-Type Thermocouple K-Type Thermocouple R-Type Thermocouple S-Type Thermocouple B-Type Thermocouple T-Type Thermocouple N-Type Thermocouple E-Type Thermocouple	(-)200 °C to 800 °C (-)200 °C to 1000 °C 0 °C to 1300 °C 0 °C to 1750 °C 0 °C to 1750 °C 600 °C to 1800 °C (-)200 °C to 390 °C 0 °C to 1300 °C 0 °C to 1000 °C	0.27 °C 0.31 °C 0.46 °C 0.65 °C 0.54 °C 0.64 °C 0.28 °C 0.33 °C 0.57 °C	Using Fluke-5522A Multi product Calibrator by Direct Method
10.	AC Power @ 50 Hz ^{\$} 7.5 W – 12 kW (15 V to 600 V, 0.5 A to 20 A) 0.5 Lead & Lag, UPF	7.5 W to 12 kW	0.31 %	Using Fluke-5522A Multi product Calibrator by Direct Method
11.	Power Factor ^{\$}	At 50 Hz 0.2 PF to 1 PF	0.006 PF	Using Fluke-5522A Multi product Calibrator by Direct Method
II.	MEASURE			
1.	DC Voltage ^{\$}	1 mV to 100 mV 100 mV to 1 V 1V to 1000 V	0.45 % to 0.04 % 0.04 % to 0.008 % 0.008 %	Using 6 ½ DMM Agilent 34401A by Comparison /Direct method
2.	DC Current ^{\$}	0.1 mA to 1 mA 1 mA to 100 mA 100 mA to 3 A 3 A to 20 A	2.32 % to 0.29 % 0.29 % to 0.07 % 0.07 % to 0.16 % 0.16 % to 0.87 %	Using 6 ½ DMM Agilent 34401A & Shunt by Comparison /Direct method

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3.	AC Voltage ^{\$}	50 Hz 10 mV to 30 mV 30 mV to 100 mV 100 mV to 750 V	0.55 % 0.55 % to 0.15 % 0.15 %	Using 6 ½ DMM Agilent 34401A by Comparison /Direct method
4.	AC Current ^{\$}	50 Hz 100 mA to 0.5 A 0.5 A to 3 A 3 A to 10 A 10 A to 20 A	0.63 % to 0.25 % 0.25 % 0.25 % to 1.27 % 1.27 % to 0.7 %	Using 6 ½ DMM Agilent 34401A by Comparison/ Direct method
5.	DC Resistance ^{\$}	1.0 Ωto 10Ω 10Ω to 1.0 MΩ 1.0 MΩ to 100MΩ	0.47 % to 0.08 % 0.08 % 0.08 % to 0.91 %	Using 6 ½ DMM Agilent 34401A by Comparison/ Direct method
6.	DC High Voltage ^{\$}	1 kV to 6 kV	0.06 kV to 0.22 kV	Using DMM Escort 97 With HV Probe Fluke 80 K-40 by Direct Method
7.	AC High Voltage ^{\$}	50 Hz 1 kV to 6 kV	0.07 kV to 0.33 kV	Using DMM Escort 97 With HV Probe Fluke 80 K-40 by Direct Method
8.	Frequency ^{\$}	10 Hz to 300 kHz	0.12 % to 0.02 %	Using 6 ½ DMM Agilent 34401A Direct Method
9.	Time [#]	10 s to 60 min 60 min to 24 hrs	0.21 Sec to 0.63 Sec 0.63 Sec to 1.59 Sec	Using Digital Stop watch by Direct Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
10.	Temperature \$ J-Type Thermocouple K-Type Thermocouple R-Type Thermocouple S-Type Thermocouple B-Type Thermocouple T-Type Thermocouple N-Type Thermocouple E-Type Thermocouple	(-)200 °C to 1000°C 0 °C to 1300 °C 0 °C to 1750 °C 0 °C to 1750 °C 600 °C to 1800 °C (-)200 °C to 390 °C 0 °C to 1300 °C (-)200 °C to 1000 °C	0.31 °C 0.46 °C 0.47 °C 0.56 °C 0.64 °C 0.28 °C 0.31 °C 0.57 °C	Using Fluke-5522A Multi product Calibrator by Direct Method
11.	Capacitance\$	1 kHz 1nF to 1μF	0.64 % to 0.5 %	Using Digital LCR Meter Aplab 4910 by Direct Method
12.	Inductance\$	1 kHz 1 mH to 1 H	0.65 % to 0.5 %	Using Digital LCR Meter Aplab 4910 by Direct Method
13.	Temperature * RTD –PT-100 J-Type K-Type R-Type S-Type	(-)200 °C to 850 °C (-)200°C to 1050°C 0°C to 1300°C 0°C to 1750°C 0°C to 1750°C	0.40 °C 0.35 °C 0.46 °C 0.57 °C 0.57 °C	Using Masibus Calibrator MC-12 Direct Method
14.	High Voltage* DC	1 kV to 30 kV	0.06 kV to 1.2 kV	Using DMM Escort 97 with HV Probe Fluke 80 k-40 Direct Method
15.	High Voltage* AC @50 Hz	1 kV to 25 kV	0.1 kV to 1.7 kV	Using DMM Escort 97 with HV Probe Fluke 80 k-40 Direct Method

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<u>MECHANICAL CALIBRATION</u>				
I.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Gauges Block \$	Upto 10 mm >10 mm to 50 mm >50 mm to 100 mm	0.12 μ m 0.20 μ m 0.41 μ m	Using Gauge Block Calibrator and Gauge Block Set Grade –00
2.	Length Bars\$	Upto 100 mm >100 mm to 300 mm >300 mm to 600 mm >600 mm to 1000 mm	0.40 μ m 1.10 μ m 4.30 μ m 5.0 μ m	Using Length Bars , LVDT Probe & Surface Plate
3.	Vernier Caliper\$ LC:0.01	0 to 300 mm >300 mm to 1000 mm	7.2 μ m 10.0 μ m	Using Caliper Checker , Gauge Block & Length Bars
4.	Height Gauge\$ LC; 0.01 mm	0 to 300 mm 300 mm to 1000 mm	7.2 μ m 10.0 μ m	Using Caliper Checker , Gauge Block , Length Bars & Lever Dial Gauge
5.	Depth Gauge\$ LC:0.01	0 to 600 mm	7.2 μ m	Using Caliper Checker, Gauge Block & Length Bars
6.	Linear Height Gauge\$ LC: 0.001 mm	0 to 1000 mm	4.20 μ m	Using Caliper Checker , Length bars , Lever Dial Gauge & Gauge Blocks

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7.	External Micrometer ^{\$} LC:0.001 mm L.C. 0.01mm	0 to 150 mm Upto 100 mm >100 mm to 600 mm	1.80 μ m 3.0 μ m 7.0 μ m	Using Gauge Block & Length Bar
8.	Caliper Checker ^{\$}	Upto 600 mm	5.0 μ m	Using Caliper Checker, Length Bars, Dial Gauge(Lever Type)
9.	Height Master ^{\$} LC:0.001 mm	0 to 600 mm	3.50 μ m	Using Caliper Checker, Gauge Blocks, Length bars & Lever Dial Gauge
10.	Dial Gauge ^{\$} (Plunger / Lever Type) LC:0.001 mm LC : 0.01 mm	0 to 25 mm 0 to 50 mm	2.0 μ m 6.11 μ m	Using Dial Gauge Calibrator & Gauge Blocks
11.	Plain Plug Gauge ^{\$}	0.5 mm to 100 mm	2.0 μ m	Using Length Measuring Machine
12.	Plain Ring Gauge ^{\$}	6.0 mm to 300 mm	2.0 μ m	Using LMM & Master Ring by Comparison
13.	Taper Plug Gauge ^{\$}	Upto 100 mm	3.0 μ m	Using Gauge Block & Digital Micrometer, Standard Wires
14.	V- Block ^{\$} (Flatness of faces parallelism of Axis)	Upto 200x150x100 mm	5.0 μ m	Using Dial Gauge & Standard Rod

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15.	Steel Scale ^{\$} LC:0.5 mm	0 to 300 mm 0 to 600 mm 0 to 1000 mm 0 to 2000 mm	$26+3.5\sqrt{L}$ μ m L in meter	Using Steel Scale Fixture with DRO LC: 0.001 mm
16.	Steel Tape ^{\$} LC :1 mm	0 to 1 m Every Subsequent m	$26+3.5\sqrt{L}$ μ m L in meter	Using Steel Scale Fixture with DRO LC: 0.001 mm
17.	Inside Micrometer ^{\$} LC:0.01 mm (Two Jaw & Stick type)	5 mm to 25 mm 25 mm to 50 mm 50 mm to 300 mm >300 mm to 1000 mm	7 .0 μ m 8 .0 μ m 8.0 μ m 10.0 μ m	Using Caliper Checker, Gauge Block Accessories & Length Bars
18.	Bore Gauge ^{\$} Transmission Movement Only	Up to 2 mm	3.5 μ m	Using Dial Calibration Tester, Dial Gauge, Electronic Probe & Gauge Block
19.	Snap Gauge ^{\$}	2 mm to 100 mm	3.0 μ m	Using Gauge Blocks
20.	Dial Thickness Gauge ^{\$} LC:0.001 mm	0 mm to 25 mm	2.0 μ m	Using Gauge Blocks
21.	Inside Dial Caliper ^{\$} LC:0.010 mm	4 mm to 75 mm	8 .0 μ m	Using Gauge Blocks
22.	Dial Gauge Calibrator ^{\$} LC:0.001 mm	0 mm to 25 mm	2.0 μ m	Using Gauge Using Gauge Blocks & Electronic Probe

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
23.	Cylindrical Square ^{\$} (Squareness Only)	upto 600 mm	3.0 μ m	Using Master Cylinder & Gauge Block
24.	Spirit Level ^{\$} Sensitivity : 0.005 mm/m 0.01 mm/m 0.02 mm/m	0 to 1' 0 to 1' 0 to 1'	4 μ m/m 6 μ m/m 8 μ m/m	Using Electronic Level & Tilting Table
25.	Bevel Protractor & Combination Set ^{\$} LC:5'	0 to 360 Deg	4 min. of arc	Using Angle Gauges
26.	Pin Gauge ^{\$}	Upto 10 mm	1.0 μ m	Using Length Measuring M/C
27.	Sine Bar ^{\$}	Upto 300 mm	4.5 μ m (6.5" of arc)	Using Angle Gauge, Dial Gauge & Gauge Block
28.	Angle Gauge ^{\$}	Upto 60 degree	8.1 Sec of arc	Using Sine Bar, Gauge Block & Dial Gauge
29.	Radius Gauge ^{\$}	Upto 25 mm	25.10 μ m	Using Profile Projector
30.	Pitch Gauge ^{\$}	Upto 10 mm	5.0 μ m	Using Profile Projector
31.	Sieves ^{\$}	Upto 10 mm >10 mm to 150 mm	24.20 μ m 30.0 μ m	Using Profile Projector & Digital Vernier Caliper
32.	Comparator Stand ^{\$} (Flatness of table)	300x300 mm	2.0 μ m	Using Surface Plate & Dial Gauge with stand

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
33.	Linear Probe ^{\$} (Digital) LC=0.1 μ m	0 to 2 mm	0.60 μ m	Using Gauge Blocks
34.	Thread Plug Gauges, wear Check Plugs ^{\$} (Only PCD)	Upto 100 mm	2.70 μ m	Using Floating Carriage, Micrometer & Thread Measuring wires
35.	Taper Thread Plug Gauge ^{\$} (Only PCD)	Upto 100 mm	3.5 μ m	Using Floating Carriage Micrometer & Thread Measuring wires
36.	Thread Ring Gauge & Thread Check Ring Gauge ^{\$}	Upto 100 mm	2.0 μ m	Using LMM, Master Ring & Thread Measuring Probe
37.	Coating Thickness Gauge ^{\$}	upto 700 μ m Above 700 μ m	3.0 μ m 5.0 μ m	Using Thickness Foils
38.	Thickness Foils ^{\$}	10 μ m to 1000 μ m	4.0 μ m	Using Gauge Block Comparator & Gauge Block
39.	Ultra Sound Thickness Gauge ^{\$}	1 mm to 100 mm	49.0 μ m	Using Slip Gauge Set
40.	Surface Plate [#] (Flatness)	Upto size (4000x2000) mm	$0.9 \sqrt{\frac{L+W}{150}}$ μ m L & W is in mm	Using Electronic Level

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41.	Straight Edge [#] Thickness Upto 10 mm I-Section Thickness 20 mm & above (Straightness)	Upto 4 m	17 μ m/m	Using Gauge Blocks, Surface Plate Electronics Level
42.	Profile Projector [#] Linear Scale LC=0.001 mm Angular Scale LC=1" Magnification 10x, 20x, 50x, 100x	Upto 300 mm Upto 90 ° 5 X	2.3 μ m 33 Sec of arc 0.80 %	Using Glass Scale Angle Gauge Standard Wires & Vernier Calipers
43.	Feeler Gauge ^{\$}	0.03 mm to 1 mm	3.40 μ m	Using Digital Micrometer
44.	Floating Carriage Micrometer ^{\$} LC:0.2 μ m	0 mm to 175 mm	1.20 μ m	Using Gauge Block & Cylindrical Standards
45.	Riser Block ^{\$}	Upto 100 mm Upto 300 mm Upto 600 mm	1.0 μ m 2.0 μ m 3.0 μ m	Using Caliper Checker , Lever Dial Gauge & Length bar
46.	Electronic Level ^{\$} LC:0.001 mm/m	$\pm$ 2 mm/m	5.0 μ m	Using Electronic Level (LC=0.001 mm/m), Tilting Table & Electronic Probe
47.	Angle Plate/ Box Angle Plate ^{\$}	Upto 600 mm	3.0 μ m	Using Master Cylinder, Surface Plate & Gauge Block

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48.	Engineer's Square ^{\$} (Try Square)	Upto 600 mm	3.0 μ m	Using Master Cylinder, Slip Gauge & Surface Plate
49.	Master Cylinder ^{\$}	Upto 600 mm	3.0 μ m	Using Master Cylinder, Surface Plate & Gauge Block
50.	Bench Centre ^{\$} Flatness Parallelism Co-Axiality	Upto 1000 mm	4.0 μ m 8.0 μ m 8.0 μ m	Using Dial Indicator, Electronic Level & Mandrel
51.	Steel Scale/ Tape Calibrator ^{\$}	Upto 1000 mm	6.0 μ m	Using Glass Scale
52.	Linear Height Gauge [*] LC: 0.0001 mm	0 to 1000 mm	4.0 μ m	Using Caliper Checker , Length bars & Lever Dial Gauge
II.	ACCRELERTION & SPEED			
1.	Non-Contact Type ^{\$} RPM Indicator / Tachometer, Centrifuge.	100 RPM to 500 RPM 500 RPM to 1000 RPM 1000 RPM to 25000 RPM	2 % 0.3 % 0.13 %	Using Digital Tachometer & Stroboscope as Source.
III.	ACOUSTICS			
1.	Sound Level Meter ^{\$}	1 kHz 94 dB & 114 dB	0.62 dB	Using Sound Calibrator

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IV.	PRESSURE INDICATING DEVICES			
1.	Pneumatic Pressure Dial/Digital / gauge Indicator, Manometer, Pressure Transducer, Pressure Transmitter, Pressure valve [#]	0 bar to 10 bar 10 bar to 30 bar 30 bar to 700 bar	0.015 bar 0.11 bar 0.61 % rdg	Using Digital Pressure Gauge & Comparator Direct Comparison DKD-R-6-1
2.	Vacuum Gauge [#]	(-)0.9 bar to 0 bar	0.007 bar	Using Digital Vacuum Gauge and Vacuum Pump Comparator Direct Comparison DKD-R-6-1
V.	TORQUE GENERATING DEVICES			
1.	Torque Wrench ^{\$} Type-I, Class, A,B,C,D,E Type-II, Class, A,B,C,D,E,F & G	2 Nm to 200 Nm 200 Nm to 2000 Nm	0.64 % 0.75 %	Using Digital Torque Calibrator IS 6789:2003
VI.	HARDNESS TESTING MACHINES			
1.	Hardness/ Rockwell Testing Machines [*]	20 HRc to 70 HRc	0.75 HRC	Using Hardness Blocks Indirect Method IS:1586

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VII.	UTM, Tension Creep and Torsion Testing Machine			
1.	Tensile / Compression Testing Machine*	50 N to 50 kN	0.96 %	Using Digital Load Cell (Class- 0/1) IS:1828
2.	Compression Testing Machines*	50 kN to 1000 kN	0.80 %	Using Dynamometer (Class- 0/1) IS:1828
3.	Compression Testing Machine*	200 kN to 2000 kN	1.2 %	Using Dynamometer (Class-1) IS:1828
VIII.	WEIGHTS			
1.	Mass \$ Calibration of Weights (Conventional Mass) Of F2 Class and coarser	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g	0.02 mg 0.02 mg 0.02 mg 0.02 mg 0.03 mg 0.04 mg 0.05 mg 0.06 mg 0.08 mg 0.10 mg 0.12 mg 0.16 mg 0.20 mg 0.25 mg 0.30 mg	Using Standard Weights F1 Class & Precision Balance of readability 0.01 mg Procedure based on OIML R 111 Substitution method of/ABA Weighing cycle

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2.	Calibration of Weights (Conventional Mass) Of F2 class & Coarser	100 g 200 g	0.5 mg 1.0 mg	Using Standard Weights F1 Class & Precision Balance of readability 0.1 mg Procedure base on OIML R 111 Substitution method of/ABA Weighing cycle
	Calibration of Weights (Conventional Mass) Of M1 Class & Coarser	500 g 1 kg 2 kg 5 kg 10 kg 20 kg 50 kg	0.2 g 0.2 g 0.2 g 0.3 g 6 g 6 g 6g	Balance of Readability 0.2 g Balance of Readability 5 g
IX.	WEIGHING SCALE AND BALANCE			
1.	Weighing Machine [#] Readability =0.1 mg & Coarser	0 to 200 g	0.4 mg	Using Standard Weights of Class F1 as per Procedure based on OIML R76 (2006) calibration of Class I Weighing Balance & Coarser
	Readability =1 mg & Coarser	0 to 1 kg	2.5 mg	Using Standard Weights of Class F1 Class II Weighing Balance & Coarser
	Readability=10 mg & Coarser	Upto 5 kg	20 mg	Using Standard Weights of Class F1 Calibration & Weighing Balance of accuracy Class II & coarser

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	Readability =100 mg & Coarser	Upto 50 kg	250 mg	Weighing Balance of Class III & coarser
	Readability=1 g & Coarser	Upto 100 kg	2.0 g	Weighing Balance of Class IV
	Readability =20 g & Coarser	Upto 200 kg	20 g	Weighing Balance of Class IV
X.	VOLUME			
1.	Micropipette ^{\$}	10 μ l to 100 μ l >100 μ l to 1000 μ l >1 ml to 10 ml	0.5 μ l 0.6 μ l 0.8 μ l	Using Standard weights & Semi-micro balance and distilled water of known density as per Gravimetric method based on ISO855-6
2.	Pipettes/ Burettes ^{\$}	1 ml to 5 ml > 5 ml to 100 ml	1.0 μ l 1.3 μ l	Using Standard weights & semi-micro balance/ Analytical balance, and distilled water of known density as per Gravimetric Method Based on ISO 4787
3.	MeasuringCylinder/ Volumetric Flask/ Graduated Jar/Cane etc. ^{\$}	1 ml to 100 ml > 100 ml to 1 l > 1 l to 5 l > 5 l to 20 l	10.3 μ l 0.5 ml 0.8 ml 7.0 ml	Using Standard weights F1 Class, precision balances, double distilled water of known density Gravimetric Method Based on ISO 4787

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
IX.	DENSITY AND VISCOSITY			
1.	Density Hydrometers ^{\$}	0.600 g/ml to 1.600 g/ml	0.0018 g/ml	Using Hydrometer of resolution 0.0005 g/ml and Appropriate Liquids By Comparison method as per based on IS 3104

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	Temperature Transmitter, RTD, Thermocouples with & Without controller/indicator /Data logger/Recorder, Temperature Gauge, Glass Thermometer, Digital thermometer with inbuilt sensor , Thermohygrometers with Sensor #	(-) 30°C to 50°C	0.81 °C	Using RTD (PT-100) 4 wire With Indicator, Negative Temperature bath by Comparison Method
2.	Temperature Transmitter ,RTD, Thermocouples with & Without controller/indicator/Data logger / Recorder, Temperature Gauge, Glass Thermometer, Digital thermometer with inbuilt sensor , Thermohygrometers with Sensor. #	50°C to 300°C	0.88 °C	Using RTD (PT-100), 4 Wire with Indicator & Oil Bath by Comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
3.	Temperature Transmitter, RTD, Thermocouples with & Without controller/ indicator/ Data logger/ Recorder, Temperature Gauge, Glass Thermometer, Digital thermometer with inbuilt sensor , Thermohygrometers with sensor #	300°C to 1000°C 1000°C to 1200°C	1.53 °C 2.57 °C	Using Type R Thermocouple With Indicator, Dry Block Furnace by Comparison Method
4.	Temperature indicator Of Deep Freezer, Freezer, Incubator, BOD Incubator , Oven, Thermostat, Water Bath, Temp Furnace, Chamber, Autoclave *	(-)80 °C to 300°C	0.83 °C	Using RTD (PT-100) 4 wire With Indicator by Comparison Method
5.	Temperature Indicator of Dry Block Furnace, Muffle Furnace *	50°C to 300°C 300°C to 1200°C	0.81 °C 2.56 °C	Using Type R Thermocouple With Indicator. Comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
II.	SPECIFIC HEAT AND HUMIDITY			
1.	Indicator of Environmental/ Conditioning Chamber/ Humidity Chamber*	15 °C to 50 °C 10 % RH to 95 % RH @25 °C	2.12 % RH 0.82 °C	Using RTD (PT-100) 4 wire With Indicator Relative Humidity Sensor with Indicator(Single Point Calibration)
2.	Humidity Sensor With Indicator (Dial/ Digital)/ Thermo Hygrometer, Humidity Chamber, Environmental/ Climatic Humidity Chamber \$	10 % RH to 95 % RH (25 to 50)°C	2.12 % RH 0.82 °C	Using Relative Humidity Sensor with Indicator , Humidity Generator by Comparison Method

* Measurement Capability is expressed as an uncertainty ($\pm$) at a confidence probability of 95%

\$Only in Permanent Laboratory

*Only for Site Calibration

The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

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