

Laboratory **Caliber Gauges & Instruments Laboratory, S. No. 14/1,
Dattadigamber Colony B, Warje Jakat Naka, Pune, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **CC-2656 (In lieu of C-0307)**

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Validity **28.06.2018 to 27.06.2020**

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO-TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage #	1mV to 200mV 200 mV to 2 V 2V to 20 V 20 V to 200 V 200 V to 999 V	1.52% to 0.12% 0.12% to 0.17% 0.17% to 0.25% 0.25% to 0.20% 0.20% to 0.14%	Using Multifunction Calibrator by Direct Method
2.	DC Current #	1 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 9 A 10 A to 800 A	0.57% to 0.22% 0.22% to 0.20% 0.20% to 0.64% 0.64% to 0.49% 2.53% to 1.87%	Using Multifunction Calibrator by Direct Method With coil
3.	AC Voltage #	50Hz 5 mV to 200 mV 200 mV to 2 V 2 V to 200 V 200 V to 999 V	2.29% to 0.25% 0.25% to 0.36% 0.36% to 0.22% 0.22% to 0.39%	Using Multifunction Calibrator by Direct Method
4.	AC Current #	50Hz 1 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 9 A 10 A to 800 A	0.63% to 0.43% 0.43% to 0.43% 0.43% to 0.98% 0.98% to 0.49% 5.91% to 1.26%	Using Multifunction Calibrator by Direct Method Using Direct Method With Coil

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
5.	Resistance #	1 m Ω to 100 m Ω 1 Ω to 100 Ω 100 Ω to 1 K Ω 1 K Ω to 100 K Ω 100 K Ω to 1 M Ω 1 M Ω to 900 M Ω	0.6% to 0.6% 0.6% to 0.2% 0.2% to 0.2% 0.2% to 0.6% 0.6% to 1.43% 1.43% to 1.44%	Using Decade Resistance Box By Direct Method
6.	Capacitance #	10 pF to 10 μ F	1.26% to 1.65%	Using Decade Capacitance Box By Direct Method
7.	Inductance #	10 μ H to 10 H	2.31% to 2.40%	Using Decade Inductance Box By Direct Method
8.	Temperature Simulation # (Temperature Controller & Indicator) R- Type S- Type K- Type J- Type N- Type B- Type RTD- Pt-100	(-) 40 to 1700 $^{\circ}$ C (-) 20 to 1700 $^{\circ}$ C (-) 200 to 1370 $^{\circ}$ C (-)200 to 1200 $^{\circ}$ C (-) 100 to 1300 $^{\circ}$ C (-)100 to 400 $^{\circ}$ C (-)200 to 650 $^{\circ}$ C	1.25 $^{\circ}$ C to 1.25 $^{\circ}$ C 2.5 $^{\circ}$ C to 3.4 $^{\circ}$ C 2.15 $^{\circ}$ C to 1.5 $^{\circ}$ C 0.8 $^{\circ}$ C to 0.18 $^{\circ}$ C 1.12 $^{\circ}$ C 2.4 $^{\circ}$ C to 2.72 $^{\circ}$ C 2.4 $^{\circ}$ C to 2.2 $^{\circ}$ C	Using Temperature Calibrator Direct Method
II.	MEASURE			
1.	DC Voltage#	1mV to 100mV 100mV to 10 V 10 V to 1000V 1kV to 5 kV	1.58% to 0.02% 0.02% to 0.06% 0.06% to 0.01% 3.83% to 4.16%	Using 6 1/2 DMM By Direct Method

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	DC Voltage *	1kV to 40 kV	3.83% to 4.16%	
2.	DC Current #	1 mA to 3 A 1 A to 10 A 1 A to 1000 A	0.63% to 0.94% 2.45% to 0.5% 2.45% to 0.5%	Using 6 ½ DMM By Direct Method
3.	AC Voltage #	1kHz to 50Hz 10mV to 100mV 100mV to 10 V 10 V to 700 V 1kV to 5 kV	1.69% to 0.79% 0.79% to 1.62% 1.62% to 0.17% 3.83% to 4.16%	Using 6 ½ DMM By Direct Method
	AC Voltage *	1kHz to 50Hz 1kV to 40 kV	3.83% to 4.16%	
4.	AC Current #	1kHz to 50Hz 1 mA to 3 A 1 A to 10 A 1kHz to 50Hz 1 A to 1000 A	0.1% to 0.36% 3.67% to 0.5% 3.67% to 0.5%	Using 6 ½ DMM By Direct Method
5.	Resistance #	10 Ω to 1M Ω 1M Ω to 100 M Ω	0.5% to 1.25% 1.25% to 1.06%	Using 6 ½ DMM By Direct Method
6.	Inductance #	200 μ H to 10H	1.31% to 2.4%	Using LCR Meter By Direct Method
7.	Capacitance #	200pF to 10 μ F	2.39% to 2.38%	Using LCR Meter By Direct Method

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8.	Timer & Stopwatch [#]	10 Sec to 9000Sec	1.5 Sec to 1.87Sec	Using Timer & Stop watch By Comparison & Direct Method
9.	Temperature Simulation # R- Type S- Type K- Type J- Type RTD- Pt-100	(-) 40 to 1700 °C (-) 20 to 1700 °C (-) 100 to 1370 °C (-) 100 to 1200 °C (-) 100 to 600 °C	1.24 °C to 1.24 °C 1.1 °C to 1.24 °C 0.79°C to 0.79 °C 0.79°C to 0.79 °C. 0.62°C to 2.5 °C	Using 6 ½ DMM By Direct Method

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<u>MECHANICAL CALIBRATION</u>				
I.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Plain Plug / Width / Depth / Flush Pin Gauge \$ (Diameter / Width / Depth)	0 to 100 mm 100 mm to 300 mm 300 mm to 500 mm	1.9 μ m 3.0 μ m 5.0 μ m	Using Electronic probe & Gauge Block as per IS 3455
2.	Thread Measuring Wire / Measuring pin \$	Up to 6.35 mm Up to 20.0 mm	0.3 μ m 0.8 μ m	Using LMM as per IS 6311 & IS 11103
3.	Feeler Gauge / Paint thickness foil \$	Up to 2 mm	1.0 μ m	Using LMM as per IS 3179
4.	Thread Plug Gauge \$ (Parameter- Effective and Major Diameter)	001mm to 100 mm 100 mm to 300 mm	3.0 μ m 4.0 μ m	Using Floating Carriage Micrometer & LMM as per Euramet Cg 1
5.	Thread Ring Gauge \$ (Parameter- Effective / Minor Diameter)	001 mm to 100 mm 100 mm to 300 mm	2.8 μ m 3.8 μ m	Using LMM as per Euramet Cg 1
6.	Taper Thread Ring Gauge \$ (Parameter – Effective Dia./ Step)	001mm to 100 mm	4.0 μ m	Using LMM as per ANSI/ASME B1.20.5

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7.	Taper Thread Plug Gauge ^s (Parameter – Effective Dia./ Step)	0 to100 mm	5.7 μ m	Using Floating carriage Micrometer as per ANSI/ASME B1.20.5
8.	Snap Gauge ^s	2 mm to100 mm 100 mm to 300 mm	2.1 μ m 5.3 μ m	Using Gauge Block as Per IS 3455
9.	Test Sieves ^s (Aperture Size)	000 to100 mm	3.0 μ m	Using Profile Projector & Vernier Caliper as per IS 460
10.	Radius Gauge ^s (Parameter-Radius)	0to30 mm	7.8 μ m	Using Profile Projector as per IS 5273
11.	Thread Pitch ^s Gauge (Parameter –Pitch Length / Angle)	0to10 mm 0-60 ^o	7.3 μ m 6'	Using Profile Projector as per IS 4211
12.	Weld Fillet Gauge ^s (Parameter-Radius)	0 to25 mm	7.8 μ m	Using Profile Projector Comparison method
13.	Round Wire Gauge Parameter-Diameter ^s	0 to50 mm	7.8 μ m	Using Profile Projector Comparison method
14.	Drill Gauge ^s (Parameter Diameter)	0 to 50 mm	7.8 μ m	Using Profile Projector Comparison method
15.	Angle Gauge ^s (Parameter-Angle)	0 to180 ^o	6'	Using Profile Projector Comparison method

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16.	Gear tooth Pitch [§] Gauge (Parameter- Pitch, Angle)	0 to 10 mm 0-60 °	7.8 μ m 6 '	Using Profile Projector Comparison method
17.	Rivet Gauge [§] (Parameter-Rivet Length)	0 to 50 mm	7.8 μ m	Using Profile Projector Comparison method
18.	Spirit Level [§] (Type – Flat, Vee, Frame) L.C 0.01 mm/m L.C 0.02 mm/m	\pm 0.120 mm / m \pm 0.120 mm / m	10 μ m/m 18 μ m/m	Using Electronic Level meter using Tilting Fixture as per IS 5706
19.	Bevel Protector Inclinometer Degree Protector [§] L.C 5 '	0-90-0 °	6.1'	Using Angle Gauge Block as per IS 4239
20.	Plain Taper Plug Gauge [§] (Major, Minor Diameter, Angle, Step)	0 to 100 mm	3 μ m 24 "	Using LMM as per IS 2251
21.	Plain Taper Ring Gauge [§] (Major, Minor Diameter, Angle, Step)	0 to 100 mm	3 μ m 24 "	Using LMM as per IS 2251

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22.	Angle Plate ^s Squariness, Parallism, Flatness	0 to 240 mm	7.8 μ m 7.8 μ m 7.8 μ m	Using Square Master, Electronic Level, Lever dial as per IS 2554
23.	Right Angle / Square Master ^s Parameter Squariness	0 to 600 mm	7.8 μ m	Using Square Master, Gauge Block as per IS 2103
24.	Angle Gauge Block ^s	0-360°	1.3''	Using Sine Bar, Gauge Block IS 2251
25.	Straight Edge ^s Parameter- Straightness	0 to 2000 mm	(1.7 $\sqrt{L/125}$) μ m L in mm	Using Electronic Level, Lever dial, Surface plate as per IS 2220
26.	Surface Plate ^s Parameter- Flatness	1000 x 1000 mm	(0.9 $\sqrt{L+W/125}$) μ m L & W in mm	Using Electronic Level meter IS 12937
27.	V Block ^s Symetricity, Parallism, Squariness	0 to 250 mm	7.5 μ m 7.2 μ m 7.0 μ m	Using Square Master, Mandrel, Lever dial as per IS 2251
28.	Engineering Parallel ^s (Parameter – Parallism)	0 to 100 mm	2.0 μ m	Using Lever Dial, Surface plate as per IS 4241
29.	Sine Center / Sine Bar ^s Center distance, Angular accuracy, Parallism, Co-axiality	0 to 200 mm 0 to 45°	2.0 μ m 7''	Using Long Slip, Angular slip, Electronic Height Gauge as per IS 5359 & IS 5979

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30.	Plain Mandrel ^s Diametrical Variation, total Run out	0 to 300 mm	4.2 μ m	Using Sine center, Dial snap Gauge as per IS 2063
31.	CD Checking Gauge ^s	0 to 300 mm	8.7 μ m	Using Electronic Height Gauge by Comparison method
32.	PCD Gauge ^s	0 to 300 mm	8.7 μ m	Using Electronic Height Gauge by Comparison method
33.	Calipers ^s (Vernier/Dial/Digital) L.C 0.01 mm	0 to 600 mm 0 to 1000 mm	16 μ m 22 μ m	Using Caliper Checker, Length Bar, as per IS 3651
34.	Height Gauge ^s (Vernier/Dial/Digital) L.C 0.01 mm	0 to 600 mm 0 to 1000 mm	11 μ m 22 μ m	Using Caliper Checker, Length bar, Surface plate as per IS 2921
35.	Depth Caliper ^s ^o (Vernier/Dial/Digital) L.C 0.01 mm	0 to 600 mm	16 μ m	Using Gauge Block, Long Gauge Block, Surface plate as per IS 4213

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
36.	Bore Gauge ^s Transmission accuracy only L.C 0.001 mm	0 to 2 mm	3.5 μ m	Using LMM JIS B 7515
37.	Plunger Dial ^s (Digital/ Analogue) L.C 0.0001 mm L.C 0.01 mm	0 to 25 mm 0 to 50 mm	0.08 μ m 4.2 μ m	Using LMM, ULM, Laser Interferometer as per IS 2092
38.	Lever Dial ^s L.C 0.0001 mm L.C 0.01 mm	0 to 2 mm 0 to 2 mm	0.08 μ m 3.0 μ m	Using LMM, ULM, Laser Interferometer as per IS 11498
39.	Outside Micrometer ^s L.C 0.01 mm L.C 0.001 mm	000 to100 mm 100mm to 500 mm 500mm to1000 mm 0 to 300 mm	6.0 μ m 7.4 μ m 27 μ m 2.8 μ m	Using Gauge block, Long Gauge Block, Length bar, Micrometer stand as per IS 2967
40.	Depth Micrometer ^s L.C 0.001 mm	0to300 mm	4.2 μ m	Using Gauge Block JIS B 7515
41.	Internal Micrometer ^s Micrometer Head Extension Rod L.C 0.001 mm	0to100 mm 0to400 mm 0to1000 mm	2.0 μ m 6.5 μ m 9.5 μ m	Using LMM & Comparator stand with long slip as per IS 2966

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42.	Three Point internal Micrometer ^s L.C 0.001 mm	0 to 100 mm	6.5 μ m	Using Plain Ring Gauge at step of 2mm as per IS 2966
43.	Dial Snap Gauge ^s (Parameter – Flatness Parallism)	0 to 200 mm	2.5 μ m	Using Optical Flat & Gauge Block as per IS 14271
44.	Internal Caliper ^s L.C 0.01 mm	0 to 150 mm	6.0 μ m	Using LMM
45.	Ultrasonic Thickness Gauge ^s	0 to 200 mm	20 μ m	Using Gauge Block by Comparison method
46.	Coating Thickness Gauge ^s	0to 2 mm	7.5 μ m	Using Coating Thickness foils by Comparison method
47.	Measuring Scale ^s L.C 1 mm	0to2000 mm	(150 \sqrt{L}) μ m L in m	Using Tape & Scale Measuring Machine as per IS 1480
48.	Measuring Tape ^s L.C 1 mm	0 to 50000 mm	150 \sqrt{L}) μ m L in m	Using Tape & Scale Measuring Machine as per IS 1270
49.	Dial Thickness Gauge ^s L.C 0.001 mm	0 to100 mm	5.9 μ m	Using Gauge Block by Comparison method

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50.	Pistal Caliper ^s L.C 0.1 mm	0 to 100 mm	60 μ m	Using Gauge Block by Comparison method
II.	DIMENSION (PRECISION INSTRUMENTS)			
1.	Cylindrical Setting Master /Cylindrical Disc ^s (Parameter- Diameter, Concentricity)	000 to 100 mm 100mm to 200 mm	1.5 μ m 2.0 μ m	Using Electronic Probe, Gauge Block as per IS 4349
2.	Micrometer Setting Rod ^s	000 to 200 mm 200mm to 500 mm 500mm to 1000 mm	2.0 μ m 5.2 μ m 12 μ m	Using Electronic Probe, Gauge Block
3.	Plain / Setting Ring Gauge ^s	001mm to 100 mm 100mm to 300 mm	2.5 μ m 3.5 μ m	Using LMM as per IS 3485
4.	Slip Gauge ^s (Carbide)	0 to 25 mm 25mm to 75 mm 75mm to 100 mm	0.12 μ m 0.14 μ m 0.18 μ m	Using Gauge Block Calibrator & K Grade Gauge Block as per IS 2984
5.	Slip Gauge ^s (Steel)	0 to 25 mm 25mm to 75 mm 75mm to 100 mm	0.12 μ m 0.14 μ m 0.24 μ m	Using Gauge Block Calibrator & K Grade Gauge Block as per IS 2984
6.	Length bar / Long Slip Gauge ^s	0 to 600 mm	2.9 μ m	Using Digital Lever dial, Long Gauge Block as per IS 7014

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7.	Caliper Checker [§]	0 to 630 mm	4.1 μ m	Using Digital Lever dial, Long Gauge Block
8.	Surface Roughness Master [§]	Ra Value	9.90 %	Using Surface Roughness Tester and master as per JIS B 0659
9.	Glass Scale [§] L.C 0.1 mm L.C 0.01 mm	0 to 300 mm 0 to 10 mm	2.2 μ m 2.0 μ m	Using ULM as per JIS B 7514
10.	Angular Scale [§]	0 – 360 °	5.6 '	Comparison method
11.	Floating Carriage Micrometer [§] L.C 0.0001 mm Overall Accuracy, Micrometer head error, Flatness, Parallism of faces.	000 to 100 mm 100 mm to 200 mm	2.2 μ m 2.0 μ m	Using Cylindrical setting master, Mandrel, Gauge Block, Optical Flat as per MOY/SCMI /9
12.	Dial Calibration Tester [§] L.C 0.0001 mm	0 to 25 mm	0.8 μ m	Using Electronic Probe & Gauge Block
13.	Electronic Probe [§] L.C 0.0001 mm	0 to 1 mm 0 to 25 mm	0.4 μ m 0.5 μ m	Using Gauge Block
14.	Comparator Base [§]	100 x 100 mm 200 x 200 mm	0.7 μ m 1.2 μ m	Using Optical Flat, Electronic probe, Surface Plate, as per IS 7599

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15.	Surface Roughness Tester ^{\$} L.C 0.000001 mm	Ra	9.90 %	Using Surface Roughness master as per JIS B 0651
16.	Length Measuring Machine. ^{\$} (Vertical & Horizontal axis) L.C 0.00001 mm	0-1000 mm	0.08 + 0.3 L L in m	Using Laser Interferometer
17.	Surface Plate * Flatness	200 x 200 mm 5000 x 5000 mm	$(0.9\sqrt{L+W}/125) \mu\text{m}$ L & W in mm	
18.	Tape & Scale Measuring Machine [#] L.C 0.0001 mm	0 to 5000 mm	$(0.7 + 0.64 L) \mu\text{m}$ L in m	Using Laser Interferometer
19.	Length Measuring Machine * (Vertical & Horizontal axis) L.C 0.00001 mm	0 to 10000 mm	$(0.08 + 0.3 L) \mu\text{m}$ L in m	Using Laser Interferometer By comparison Method
20.	CNC Machine / Machine Tool * Positioning Accuracy	0 to 10000 mm	$(2.9 + 1L) \mu\text{m}$ L in m	Using Laser Interferometer as per VDI 3441

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21.	Profile Projector [#] Video Measuring Linear Magnification Angular	0 to 300 mm 10X to 100 X 0-360°	4.7 μ m 1.80 % 3'	Using Glass scale, Digital Vernier caliper, Angular Scale as per JIS B 7184
22.	Electronic Height Gauge. [#] Linear Squarness L.C 0.0001 mm	0 to 1000 mm	5.2 μ m 5.2 μ m	Using Gauge Block, Long Gauge Block by Comparison Method
23.	Bench Center [#] Co- Axiality	0 to 300 mm	4.5 μ m	Using Plain Mandrel, Lever dial IS 5980
24.	Straight Edge [*] Parameter - Straightness	0 to 3500 mm	$(0.9\sqrt{L+W/125}) \mu$ m L in mm	Using Electronic level meter IS 2220
III.	WEIGHING SCALE & BALANCE			
1.	Weighing Balance [#] Readability 0.01mg	0 to 220 g	0.6 mg	Using E2 Class weight as per OIML-R-76-1
	Readability 1mg Readability 5mg	0 to 10 kg 0 to 50 kg	20 mg 20.0g	Using F1 Class weight per OIML-R-76-1
IV.	WEIGHTS			
1.	Weights [§] Accuracy Class F2 And Coarser	1 mg 2 mg 5 mg 10 mg	0.02 mg 0.02 mg 0.02 mg 0.025 mg	Using weight of Accuracy class E2 and Semi micro balance by substitution method,

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		20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g	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 0.50 mg 1.0 mg	ABBA Weighing cycle. OIML-R-111
	Accuracy class M1 and Coarser	500 g 1000 g 2000 g 5000 g 10000 g	10.3 mg 10.0 mg 10.0 mg 17.0 mg 21.0mg	Using weight of Accuracy class F1 and Precision balance by substitution method, ABBA Weighing cycle. OIML-R-111
V.	VOLUME			
1.	Micropipettes [§]	10 μ l to 50 μ l 50 μ l to 100 μ l 100 μ l to 1000 μ l 1000 μ l to 2000 μ l 2000 μ l to 5000 μ l	0.04 μ l 0.65 μ l 6.5 μ l 13.0 μ l 35 μ l	Using Gravimetric Method as per ISO 8655-PART- 6
2.	Glass Pipettes & Burettes [§]	5 ml to 50 ml 50 ml to 100 ml	0.06 ml 0.25 ml	Using Gravimetric Method as per ISO 4787

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Laboratory Caliber Gauges & Instruments Laboratory, S. No. 14/1,
Dattadigamber Colony B, Warje Jakat Naka, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2656 (In lieu of C-0307)

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Validity 28.06.2018 to 27.06.2020

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
3.	Volumetric Flask, Jar & Measuring Cylinders ^{\$}	5 ml to 50 ml 50 ml to 100 ml 100 ml to 500 ml 500 ml to 2000 ml	0.12 ml 0.22 ml 1.1 ml 5.0 ml	Using Gravimetric Method as per as per ISO 4787
VI.	PRESSURE INDICATING DEVICES			
1.	Pressure Gauge, Pressure Transmitter, Pressure Transducers & Pressure Switch [#] (Pneumatic)	0 to 10 bar	0.2 bar	Using Digital Pressure Indicator as per DKD R-6-1
2.	Pressure Gauge, Pressure Transmitter, Pressure Transducers & Pressure Switch [#] (Hydraulic)	0 to 10 bar 0 to 350 bar 0 to 700 bar	0.2 bar 0.9 bar 0.6 bar	Using Digital Pressure Indicator as per DKD R-6-1
3.	Vacuum Gauge [#]	(-)0.8 to 0 bar	0.62 bar	Using Digital Indicator as per ISO 3576 and ISO 27893
VII.	ACCELERATION & SPEED			
1.	Digital Tachometer ^{\$}	100 rpm to 1000rpm >1000rpm to 99000rpm	1.7% rdg 0.3% rdg	Using Digital Tachometer

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
VIII.	ACCOUSTICS			
1.	Sound level meter [®]	94 dB & 114 dB	1.33 dB	Using sound Level Calibrator
IX.	TORQUE GENERATING DEVICE			
1.	Torque Torque Wrench [§] Type I- Class B & C & Type II- Class A & B	2 Nm to 20 Nm 20 Nm to 200 Nm 200 Nm to 2000 Nm	0.9% rdg 0.9% rdg 2.0% rdg	Based on IS/ISO 9789:2003
X.	DUROMETER			
1.	Rubber Hardness Tester A/ Spring Force Calibration [§]	Shore A Shore D	0.8 Shore A 0.7 Shore D	Based on D2240/ISO 18898

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>THERMAL CALIBRATION</u>				
1.	Temperature Transmitter, RTD, Thermocouple with Indicator & without indicator/ data logger / Recorder & Temperature Gauge, Digital Thermometer Freezer, Chamber, Oven, Furnace Room #	(-)15 °C to 110 °C 50 °C to 250 °C 250 °C to 1200 °C	0.28 °C to 0.45°C 0.45 °C 2.7 °C to 3.4 °C	Using RTD PT-100/ 'S' Type Thermocouple, 6½ DMM By Comparison Method
2.	Glass Thermometer #	0 °C to 250 °C	1.3 °C	Using RTD PT-100,6½ DMM By Comparison Method
3.	Temperature indicator with sensor of cold chamber, Freezer, Oven Furnace *	(-)15 °C to 110 °C 50 °C to 250 °C 250 °C to 1200 °C	0.28 °C to 0.45°C 0.45 °C 2.7 °C to 3.4 °C	Using RTD PT-100/ 'S' Type Thermocouple, 6½ DMM By Comparison Method
II SPECIFIC HEAT & HUMIDITY				
1.	Digital & Analog Hygrometer, RH Sensor With Indicator/ Data logger §	15 °C to 45 °C @50%RH 30% to 90%RH @25 °C	0.4 °C 5% RH	Using Temp & RH Sensor With Indicator, Temp/ Humidity Generator/ Chamber

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
2.	Humidity Indicator Of Chamber, Environmental Oven #	15 °C to 45 °C @50%RH 30% to 90%RH @25 °C	0.4 °C 5% RH	Using Temp/Humidity Meter With Probe.

* 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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