

Laboratory Balaji Enterprises Calibration Laboratory, Krishna Chambers, Flat No. 2, Pimpri, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2405 (In lieu of C-0245) **Page** 1 of 6

Validity 19.11.2017 to 18.11.2019 **Last Amended on** --

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Vernier Caliper ^{\$} (Dial,Digital, Analog) L.C.:0.01 mm L.C.:0.02 mm	0 to 600 mm 0 to 1000 mm	15.0 μ m 22.0 μ m	Using Caliper Checker/Length Bar by Comparison Method (IS 3651)
2.	Depth Vernier ^{\$} L.C.:0.01 mm	0 to 300 mm	8.3 μ m	Using Slip Gauge Set by comparison method (IS 4213)
3.	Height Gauge ^{\$} (Dial,Digital Analog) L.C.: 0.01 mm	0 to 600 mm 0 to 1000 mm	16.8 μ m 17.8 μ m	Using Caliper Checker/ Slip Gauge by comparison method (IS 2916)
4.	External Micrometer ^{\$} L.C.:0.001mm L.C.:0.001mm L.C.:0.001mm L.C.:0.01 mm	0 to 150 mm 150 mm to 300 mm 300 mm to 500 500 mm to 700 mm	2.00 μ m 4.00 μ m 8.00 μ m 10.00 μ m	Using Slip Gauge set/long gauge block By comparison method (IS 2967)
5.	Internal Micrometer ^{\$} L.C.:0.01 mm	50 mm to 550 mm	11.0 μ m	Using Slip Gauge set / Plunger Dial by comparison method (IS 2966)

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6.	Depth Micrometer ^{\$} L.C.: 0.01 mm	0 to 200 mm	5.00 μ m	Using Slip Gauge Set by Comparison Method
7.	Snap Gauge ^{\$}	2 mm to 250 mm	3.5 μ m	Using Slip Gauge Set by Comparison Method (IS 3455)
8.	Feeler Gauge/Thickness Foil ^{\$}	0 to 1 mm	1.0 μ m	by Comparison Method (IS 3179)
9.	Thread Measuring Wire Set ^{\$}	0.17 mm to 6.35 mm	1.5 μ m	Using Electronic Comparator by Comparison Method (IS 6311)
10.	Measuring Pins ^{\$}	Upto 20 mm	1.5 μ m	Using Electronic Comparator by Comparison Method (IS 11103)
11.	Plunger Dial ^{\$} L.C.: 0.001 mm L.C.:0.01 mm	0 to 25 mm 0 to 50 mm	3.0 μ m 6.0 μ m	Using Electronic Dial Calibration Tester by Comparison Method (IS 2092)
12.	Lever Dial ^{\$} L.C.:0.001 mm	0 to 1 mm	1.9 μ m	Using Electronic Dial Calibration Tester by comparison method (IS 11498)

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
13.	Bore Gauge ^{\$} (Transmission Error) L.C.:0.001 mm	Upto 1 mm	3.5 μ m	Using Electronic Dial Calibration Tester by Comparison Method
14.	Dial Thickness Gauge ^{\$} L.C.:0.001 mm	0 to 25 mm	2.00 μ m	Using Slip Gauge Set by Comparison Method
15.	Pistol Caliper ^{\$} L.C.:0.1 mm	0 to 50 mm	68.00 μ m	Using Slip Gauge Set By Comparison Method
16.	Analog Comparators ^{\$}	0 to 20 mm	3.3 μ m	Using Slip Gauge Set by Comparison Method
17.	Comparator Base ^{\$} (Flatness)	300 x 300	2.7 μ m	Using Electronic Probe by Comparison Method (IS 12937)
18.	Bevel Protector ^{\$}	0 to 90°/5 Min	4.2 Min	Using Angle Gauge Block by Comparison Method (IS 4239)
19.	Combination Set ^{\$}	0 to 90°/1 Deg	36 Min	Using Angle Gauge Block by Comparison Method
20.	Engineers Square ^{\$}	Up to 300 mm	9.00 μ m	Using Master Cylinder/Electronic Probe by Comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
21.	Plain Plug Gauge/Width Gauge/OD master ^{\$}	Up to 100 mm	8.00 μ m	Using Slip Gauge Set / Electronic Probe By Comparison Method (IS 3455)
22.	Thread Plug Gauge ^{\$}	2 mm to 100 mm	5.00 μ m	Using FCDM – Thread Measuring Wire By Comparison Method (IS 2334)
23.	Angle Plate ^{\$}	Upto 300 mm	9.3 μ m	Using Master Cylinder Electronic Probe by Comparison Method
24.	V Block ^{\$} (Symmetricity & Parallelism)	Up to 100 mm	9.0 μ m	Using Straight Mandrel by Comparison Method (IS 2949)
25.	Dial Snap Gauge ^{\$}	Up to 200 mm	3.0 μ m	Using Slip Gauge Set by Comparison Method (IS 2949)
26.	Inside Dial Caliper ^{\$} L.C.:0.01 mm	10 mm to 150 mm	10.0 μ m	Using Slip Gauge Set By Comparison Method (IS 2949)
27.	Micrometer Setting Standard ^{\$}	Up to 100 mm 100 mm to 300 mm 300 mm to 500 mm 500 mm to 675 mm	1.5 μ m 3.2 μ m 5.00 μ m 10.1 μ m	Using Slip Gauge And Comparator by Comparison Method (7014)
28.	Measuring Scale ^{\$}	Upto 1000 mm	115 μ m	Using Tape & Scale Calibrator by Comparison Method (IS 1481)

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29.	Measuring Tape ^{\$}	Upto 50 mtr	115 $\sqrt{L}$ L is in mtr	Using Tape & Scale Calibrator by Comparison Method (IS 1269)
30.	Dial Calibration Tester ^{\$} L.C.:0.0001 mm	Up to 25 mm	0.8 μ m	Using Electronic Probe /Slip Gauge by comparison method
31.	Electronic Probe ^{\$} L.C.:0.0001 Mm	0 to 25 mm	0.7 μ m	Using Slip Gauge by Comparison Method
32.	Plain Ring Gauge ^{\$}	3 mm to 100 mm	2.1 μ m	Using ULM, Master Ring Gauge By Comparison Method (IS 3455)
33.	Thread Ring Gauge ^{\$}	3 mm to 100 mm	1.6 μ m	Using ULM, Master Ring By Comparison Method (IS 2334)
34.	Height Block ^{\$}	Up to 300 mm	5.00 μ m	Using Slip Gauge Electronic Probe by Comparison Method
35.	Surface Plate [#] 0,1,2,3 grade	3000 mm x 2000	2.2 $\sqrt{L+W/100}$ L & W is in mm	Using Spirit Level by Comparison Method (IS 12937)
36.	Height Measuring System [#] L.C.: 0.0001 mm	Up to 600 mm	8.5 μ m	Using Slip Gauge Set by comparison Method

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37.	Bench Center # (Parallelism & Co Axiality)	0 to 300 mm	10.0 μ m	Using Straight Mandrel by Comparison Method
38.	Tape & Scale Calibrator# L.C.:.001 mm	Upto 1000 mm	30.0 μ m	Using Slip Gauge Set by Comparison Method
II.	DIMENSION (PRECISION INSTRUMENTS)			
1.	Profile Projector#	0 to 300 mm 10 x to 100x 0-360°	30.0 μ m 1.2 % 2 Min	Using Glass Scale/Digital Caliper Angle Gauge by Comparison method (JIS B 7184)
2.	Gauge Block Set§	Upto 50 mm 50 mm to 100 mm	0.21 μ m 0.35 μ m	Using Tungsten Gauge Block Set/ Gauge block Calibrator by comparison method (IS 2984)

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

§ Only in Permanent Laboratory

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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