

Laboratory **G.D. Instrument Calibration Center, F- 46, 47, Flora Town-A, MIDC Area  
Ambad, Nashik, Maharashtra**

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

Discipline **Mechanical Calibration** Issue Date **20.11.2014**

Certificate Number **C-0391** Valid Until **19.11.2016**

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Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability ( $\pm$ )	Remarks
<b>I. DIMENSION</b>			
1. <b>Caliper<sup>\$</sup></b> (Vernier / Dial / Digital) L.C.10 $\mu\text{m}^\phi$	Up to 1000 mm	18.0 $\mu\text{m}$	Using Caliper Checker, Long Gauge Block & External Micrometer by Comparison Method
2. <b>Depth Gauge<sup>\$</sup></b> (Vernier / Dial / Digital) L.C. 10 $\mu\text{m}^\phi$	Up to 600 mm	14.0 $\mu\text{m}$	Using Caliper Checker, & Long Gauge Block Set by Comparison Method
3. <b>Height Gauge <sup>\$</sup></b> (Vernier / Dial / Digital) L.C. 1.0 $\mu\text{m}^\phi$	Up to 1000 mm	19.0 $\mu\text{m}$	Using Gauge Block Set, Caliper Checker & Surface Plate by Comparison Method
4. <b>External Micrometer<sup>\$</sup></b> L.C.1 $\mu\text{m}^\phi$ L.C.10 $\mu\text{m}$	Up to 100 mm >100 mm to 500 mm	2.3 $\mu\text{m}$ 10.4 $\mu\text{m}$	Using Gauge Block Set by Comparison Method
5. <b>Depth Micrometer<sup>\$</sup></b> L.C. 10 $\mu\text{m}$	Up to 300 mm	7.8 $\mu\text{m}$	Using Gauge Block Set. & Surface Plate by Comparison Method

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6. Micrometer Setting Standard <sup>s</sup>	Up to 475 mm	5.0 $\mu$ m	Using Gauge Block Set. & Electronic Probe with DRO by Comparison Method
7. Digimatic Indicator <sup>s</sup> L.C. 1 $\mu$ m	Up to 50 mm	2.0 $\mu$ m	Using Gauge Block Set by Comparison Method
8. Dial Gauge <sup>s</sup> (Plunger Type) L.C. 1 $\mu$ m <sup>phi</sup>	Up to 1 mm	2.0 $\mu$ m	Using Electronic Probe with DTC by Comparison Method
L.C. 10 $\mu$ m	Up to 50 mm	6.0 $\mu$ m	Using Dial Calibration Tester by Comparison Method
9. Dial Gauge <sup>s</sup> (Lever Type) L.C. 1 $\mu$ m L.C. 2 $\mu$ m	0 to 0.14 mm 0 to 2 mm	2.2 $\mu$ m 2.4 $\mu$ m	Using Electronic Probe with DTC by Comparison Method
L.C. 10 $\mu$ m	0 to 2 mm	6.0 $\mu$ m	Using Dial Calibration Tester by Comparison Method
10. Bore Gauge with Dial For Transmission Accuracy <sup>s</sup>	Up to 2.5 mm	2.3 $\mu$ m	Using Electronic Probe with DTC by Comparison Method

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11. Dial Thickness Gauge <sup>§</sup> L.C. 1 $\mu\text{m}^\phi$	Up to 10 mm	7.0 $\mu\text{m}$	Using Gauge Block Set by Comparison Method
12. Dial Snap Gauge <sup>§</sup> L.C. 1 $\mu\text{m}^\phi$	2 mm to 100 mm	2.5 $\mu\text{m}$	Using Gauge Block Set by Comparison Method
13. Electronic Probe with DRO <sup>§</sup> L.C. 0.1 $\mu\text{m}$	0 to 25 mm	1.4 $\mu\text{m}$	Using Gauge Block Set by Comparison Method
14. Dial calibration Tester <sup>§</sup> L.C. 1.0 $\mu\text{m}$	0 to 25 mm	2.8 $\mu\text{m}$	Using Electronic Probe with DRO by Comparison Method
15. Plain Plug Gauge / Paddle Gauge <sup>§</sup>	Up to 100 mm >100 mm to 200 mm	2.4 $\mu\text{m}$ 2.5 $\mu\text{m}$	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
16. Taper Plug Gauge <sup>§</sup> Major / Minor Diameter Angle	Up to 50 mm Half Included Angle 22°30"	15.0 $\mu\text{m}$ 2.5 min of Arc	Using Roller Pin & Gauge block Set by Comparison Method
17. Plain Ring Gauge <sup>§</sup>	2 mm to 300 mm	4.4 $\mu\text{m}$	Using Lab-Microcal & Master Ring by Comparison Method

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18. Taper Ring Gauge <sup>\$</sup> Major / Minor Diameter Angle	Up to 50 mm Half Included Angle 22°30"	4.4 $\mu$ m 2.0 min of Arc	Using Lab-Microcal & Master Ring by Comparison Method
19. Cylindrical Measuring Pin <sup>\$</sup>	Up to 20 mm	1.5 $\mu$ m	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
20. Cylindrical Setting Master <sup>\$</sup>	Up to 100 mm	1.8 $\mu$ m	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
21. Thread Measuring Wires <sup>\$</sup>	0.17 mm to 6.35 mm	1.4 $\mu$ m	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
22. Snap Gauge <sup>\$</sup>	2 mm to 100 mm >100 mm to 200 mm	1.4 $\mu$ m 2.0 $\mu$ m	Using Gauge Block Set by Comparison Method
23. Plain Thread Plug Gauge <sup>\$</sup> Major Diameter (Effective Diameter)	M2 to M100	3.5 $\mu$ m 5.9 $\mu$ m	Using FCDM, Thread Measuring Wires & Cylindrical setting Master by Comparison Method
24. Taper Thread Plug Gauge <sup>\$</sup> (Effective Diameter)	M2 to M100	3.5 $\mu$ m	Using FCDM, Thread Measuring Wires & Cylindrical setting Master by Comparison Method

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25. Thread Ring Gauge <sup>§</sup> (Effective Diameter)	M3 to M300	3.3 $\mu$ m	Using Lab-Microcal & Master Ring by Comparison Method
26. Taper Thread Ring Gauge <sup>§</sup> (Effective Diameter)	M3 to M300	3.3 $\mu$ m	Using Lab-Microcal & Master Ring by Comparison Method
27. Feeler Gauge / Standard Foil <sup>§</sup>	Up to 2 mm	1.5 $\mu$ m	Using Electronic Probe with DRO by Comparison Method
28. Pistol Caliper <sup>§</sup> L.C. 100 $\mu$ m	Up to 50 mm	76.0 $\mu$ m	Using Gauge Block by Comparison Method
29. Engineers Square <sup>§</sup> (Squareness)	L x W x H = 300 mm x 300 mm x 60 mm	4.2 $\mu$ m	Using Granite Square & Gauge Block by Comparison Method
30. Angle Plate <sup>§</sup> (Squareness)	L x W x H = 450 mm x 300 mm x 100 mm	4.5 $\mu$ m	Using Granite Square & Gauge Block by Comparison Method
31. Precision Spirit Level <sup>§</sup> L.C. 10 $\mu$ m/m	Up to 300 mm	4.9 $\mu$ m/m	Using Gauge Block by Comparison Method

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32. Bevel Protractor Combination Set <sup>§</sup> L.C. 5 ' L.C. 1°	0° - 90° - 0°	3.5 min of Arc 45.45 min of arc	Using Angle Gauge Block Set. by Comparison Method
33. Single Axis Measuring Machine <sup>§</sup> L.C. 0.1 $\mu$ m	0 to 100 mm	1.0 $\mu$ m	Using Gauge Block by Comparison Method
34. Radius Gauge <sup>§</sup>	Up to 25 mm	10.0 $\mu$ m	Using Vision Measuring System by Comparison Method
35. Glass scale <sup>§</sup> L.C.10 $\mu$ m	Up to 100 mm	8.9 $\mu$ m	Using Vision Measuring System by Comparison Method
36. Profile Projector* Linear	0 to 100 mm	4.2 $\mu$ m	Using Gauge Block Set by Comparison Method
Angular Measurement* L.C. 1 '	0° to 360°	2 ' of arc	Using Angle Gauge Block by Comparison Method
Magnification	10 x to 50x	0.24%	Using Gauge Block Set & Vernier Caliper by Comparison Method

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37. Surface Plate Flatness* L.C. 5 $\mu$ m/mt	L x W 3000 mm x 3000 mm	$3.0 \times \sqrt{\frac{L+W}{100}}$ (Where L & W are in mm)	Using Precision Level by Comparison Method
<b>II. PRESSURE</b>			
1. Pneumatic Pressure Digital / Analogue Pressure Gauge <sup>§</sup>	0 bar to 20 bar	0.072 bar	Using Digital Pressure Indicator by Comparison Method
2. Hydraulic Pressure Digital / Analogue Pressure Gauge*	0 bar to 700 bar	3.15 bar	Using Digital Pressure Gauge & Comparator Pump by Comparison Method
<b>III. TORQUE</b>			
1. Torque Wrench <sup>§</sup> (Type I-Class B & C; Type II-Class A & B)	1 Nm to 200 Nm >200 Nm to 1000 Nm	1.95 % 1.53 %	Using Torque Sensor with Indicator & Torque Tester

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

<sup>§</sup>Only in Permanent Laboratory

\*Only for Site Calibration

<sup>φ</sup>Laboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range using same reference standard/ master equipment under the scope of accreditation.