

Laboratory Maruti Calibrations, Shop No. 6 & 8, Pagaria - Nelge Plaza, Pune-Nasik Highway, Bhosari, Pune, Maharashtra

Accreditation Standard ISO/IEC 17025:2005

Discipline Mechanical Calibration **Issue Date** 23.12.2014

Certificate Number C-0690 **Valid Until** 22.12.2016

Last Amended on - **Page** 1 of 7

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
I. DIMENSION			
1. Calipers^{\$} (Vernier/ Dial/ Digital) L.C.: 10 μm^ϕ	0 to 1000 mm	20.0 μm	Using Slip Gauge Blocks, Caliper Checker & Length Bars by Comparison Method
2. Height Gauge^{\$} (Vernier/ Dial/ Digital) L.C. :10 μm^ϕ	0 to 1000 mm	20.0 μm	Using Slip Gauge Blocks, Caliper Checker & Length Bars by Comparison Method
3. Depth Gauge^{\$} (Vernier/ Dial/ Digital) L.C.: 10 μm^ϕ	0 to 600 mm	16.0 μm	Using Slip Gauge, Caliper Checker & Length Bars by Comparison Method
4. External Micrometer^{\$} L.C. :1 μm^ϕ	Upto 100 mm > 100 mm to 300 mm	2.0 μm 4.0 μm	Using Slip Gauge Blocks, Plunger Dial & Length Bars by Comparison Method
L.C. :10 μm	> 300 mm to 600 mm > 600 mm to 1000 mm	10.0 μm 15.0 μm	
5. Micrometer Setting Stick/ Length Bar / Height Block ^{\$}	Upto 100 mm > 100 mm to 300 mm > 300 mm to 600 mm > 600 mm to 1000 mm	2.3 μm 3.1 μm 4.2 μm 8.0 μm	Using Slip Gauges, Length bar & Comparator by Comparison Method

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Convenor

Avijit Das
Program Manager

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Last Amended on - **Page** 2 of 7

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6. Dial Gauges Plunger Types ^{\$} L.C. :1 μm^ϕ	Upto 25 mm	2.5 μm	Using Dial Calibration Tester & Electronic Comparator by Comparison Method
7. Lever Dial Gauge ^{\$} L.C. : 1 μm^ϕ L.C. : 10 μm^ϕ	Upto 0.2 mm Upto 1.0 mm	2.5 μm 5.0 μm	Using Dial Calibration Tester & Electronic Comparator by Comparison Method
8. Internal Micrometer ^{\$} L.C. :10 μm	Upto 350 mm & Traverse Upto 25 mm	8.1 μm	Using Slip Gauges & Comparator by Comparison Method
9. Plain Plug Gauges/ Width Gauge/ OD Master/ Plain Mandrel ^{\$}	Upto 100 mm > 100 mm to 300 mm	2.0 μm 3.7 μm	Using Slip Gauge Blocks, Length Bars & Comparator by Comparison Method
10. Snap Gauge ^{\$}	Upto 100 mm > 100 mm to 200 mm	2.1 μm 4.0 μm	Using Slip Gauge Blocks by Comparison Method
11. Dial Thickness Gauge ^{\$} L.C. :1 μm^ϕ	Upto 25 mm	2.5 μm	Using Slip Gauges by Comparison Method

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Last Amended on - **Page** 3 of 7

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12. Feeler Gauge Set / Coating Thickness Foils ^{\$}	Upto 1 mm	3.0 μ m	Using Digimatic Micrometer by Comparison Method
13. Bore Gauge For Transmission Accuracy ^{\$}	Transmission only	3.0 μ m	Using Dial Calibration Tester by Comparison Method
14. Pistol Caliper ^{\$} L.C.: 100 μ m	Upto 50 mm	71.0 μ m	Using Slip Gauges by Comparison Method
15. Depth Micrometer ^{\$} L.C.: 10 μ m	Upto 300 mm	7.31 μ m	Using Slip Gauges & Length Bars by Comparison Method
16. Measuring Pin / Thread Measuring Wire ^{\$}	1 mm \emptyset to 20 mm \emptyset	1.3 μ m	Using Slip Gauges & Comparator by Comparison Method
17. Taper Thread Plug Gauge ^{\$}	Upto 100 mm	4.48 μ m	Using Floating Carriage Dia. M/c. by Comparison Method
18. Taper Plug Gauge ^{\$}	Upto 25°	30"	Using Sine Center & Slip Gauges by Comparison Method
19. Dial Snap Gauge ^{\$}	Upto 200 mm	3.0 μ m	Using Slip Gauges by Comparison Method

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Last Amended on - **Page** 4 of 7

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20. Measuring Steel Scale ^{\$} L.C.: 1 mm	Upto 1 m	0.267 mm	Using Tape & Scale Calibrators by Comparison Method
21. Measuring Tape ^{\$} L.C.: 1 mm	Upto 50 m	0.25 mm/m	Using Tape & Scale Calibrators by Comparison Method
22. Bevel Protractor/ Angle Protractor/ Combination Square Set ^{\$} L.C. :5" L.C. :1°	0° to 360° 0° to 180°	3' 36" 35 "	Using Sine Bar & Slip Gauges by Comparison Method
23. V-Block ^{\$} Squareness Parallellism Symmetry	Upto 200 mm	10.3 μ m 3.6 μ m 4.92 μ m	Using 'L' Suare, Comparator Dial by Comparison Method
24. Engineer's Square ^{\$} Straightness Parallellism Squareness	Upto 300 mm	5.5 μ m 4.0 μ m 10.5 μ m	Using 'L' Suare, Comparator Dial by Comparison Method
25. Angle Plate ^{\$} Flatnetness Squareness Parallelism	300 mm X 300 mm	5.0 μ m 10.5 μ m 4.2 μ m	Using 'L' Suare, Comparator Dial by Comparison Method

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Last Amended on - **Page** 5 of 7

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26. Comparator Stand ^{\$} (Flatness)	Upto 200 mm > 200 mm to 300 mm	1.5 μ m 2.3 μ m	Using Electronic Comparator by Comparison Method
27. Inside Dial Caliper Gauge/ Two Pin Dial ^{\$} L.C. :10 μ m ^ϕ	Upto 100 mm	10.0 μ m	Using Slip Gauges by Comparison Method
28. Micrometer Head ^{\$}	Upto 25 mm	1.04 μ m	Using Electronic Probe & Slip Gauge by Comparison Method
29. Electronic Probe with DRO/ Analogue Comparator ^{\$} L.C. :0.1 μ m ^ϕ	Upto 25 mm	1.0 μ m	Using Electronic Probe & Slip Gauge by Comparison Method
30. Dial Calibration Tester ^{\$} L.C. : 0.2 μ m ^ϕ	Upto 25 mm	1.0 μ m	Using Electronic Probe & Slip Gauge by Comparison Method
31. Caliper Checker ^{\$}	Upto 600	6.37 μ m	Using Slip Gauge, Length Bar & Lever Dial by Comparison Method
32. Coating Thickness Gauge ^{\$}	Upto 2000 μ m	4 μ m	Using Coating Thickness Foils by Comparison Method

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Last Amended on - **Page** 6 of 7

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33. Electronic Height Gauge* L.C.: 0.1 μ m ^ϕ	Upto 600 mm >600 mm to 1000 mm	6.5 μ m 10.0 μ m	Using Length Bar & Slip Gauges by Comparison Method
34. Surface Plate*	Upto 3000 mm x 3000 mm	$3.2 \sqrt{\frac{L+W}{200}}$ μ m (Where L & W are in mm)	Using Precision Spirit Level by Comparison Method
35. Bench Center*	Upto 300 mm	8.0 μ m	Using Straight, Taper Mandrill & Comparator Dial by Comparison Method
36. Profile Projector* Linear Angle Magnification	Upto 300 mm Upto 360° Upto 100X	12.00 μ m 4.3" 0.84%	Using Linear Glass Scale, Slip Gauge & Angle Gauge by Comparison Method
II. PRESSURE & VACUUM			
1. Pressure Gauge [#]	1 bar to 14 bar 14 bar to 700 bar	0.43 % of rdg. 0.66 % of rdg.	Using Digital Pressure Gauge as per DKD R-6-1

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Last Amended on - **Page** 7 of 7

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2. Vacuum Gauge [#]	(-) 0.9 bar to 0 bar	2.13 % of rdg.	Using Digital Pressure Gauge as per ISO 3567

* 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.

^φLaboratory 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.

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