

Laboratory	SaRC Instruments, #132, 5th Cross, J.P. Nagar, 6th Phase, Ring Road, Iliyasnagar, Bangalore, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Mechanical Calibration	Issue Date	27.12.2015
Certificate Number	C-0468	Valid Until	26.12.2017
Last Amended on	06.01.2016	Page	1 of 7

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
I. DIMENSION			
1. CALIPERS \$ (VERNIER, DIAL & DIGITAL)			
L.C.: 0.01 mm Φ	Upto 300 mm	10 μ m	Using Caliper Checker/ Gauge Blocks/ Long Gauge Blocks / by Comparison Method
L.C.: 0.01 mm Φ	Upto 600 mm	12.5 μ m	
L.C.: 0.01 mm Φ	Upto 1000 mm	15.3 μ m	
2. DEPTH GAUGE \$ (VERNIER, DIAL & DIGITAL)			
L.C.: 0.01 mm Φ	Upto 300 mm	10 μ m	Using Depth Micro Checker/ Gauge Blocks/ Long Gauge Blocks/ Electronic Comparator by Comparison Method
3. GEAR TOOTH CALIPER \$			
	Depth-25 mm Width-50 mm	15.6 μ m	Using Gauge Blocks by Comparison Method
4. HEIGHT GAUGES \$ (VERNIER, DIAL & DIGITAL)			
L.C.: 0.01 mm Φ	Upto 300 mm	10.4 μ m	Using Caliper Checker/Gauge Blocks/Long Gauge Block/Electronic Comparator by Comparison Method
L.C.: 0.01 mm Φ	Upto 600 mm	12.8 μ m	
L.C.: 0.02 mm Φ	Upto 1000 mm	19.6 μ m	
5. EXTERNAL MICROMETERS OF (Analogue/Digital) \$			
L.C.: 0.001 mm Φ	Upto 100 mm	2.4 μ m	Using Gauge Blocks/ Long Gauge Block/ Electronic Comparator/ ULM/ Optical parallels/ Monochromatic Light source by Comparison Method
L.C.: 0.001 mm Φ	Upto 300 mm	4.6 μ m	
L.C.: 0.001 mm Φ	Upto 500 mm	7.7 μ m	
L.C.: 0.001 mm Φ	Upto 900 mm	12.8 μ m	

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6. THREAD PITCH MICROMETER \$ L.C.: 0.001mm ^Φ	Upto 50 mm	10.5 μ m	Using Gauge Blocks/ Profile Projector by Comparison Method
7. STICK MICROMETER \$ L.C.: 0.01mm	Upto 250 mm	7.0 μ m	Using Gauge Blocks/ Profile Projector by Comparison Method
8. SETTING ROD \$	Upto 300 mm Upto 500 mm Upto 900 mm	2.8 μ m 3.3 μ m 4.0 μ m	Using Gauge Blocks/ Long Gauge Block/ Electronic Comparator/ ULM by Comparison Method
9. INTERNAL MICROMETER \$ (ANALOGUE & DIGITAL TYPE)	5 mm to 100 mm	7.4 μ m	Using Gauge Blocks/Slip Gauge Holder by Comparison Method
10. DEPTH MICROMETER \$ (ANALOGUE & DIGITAL TYPE) L.C.: 0.001mm ^Φ	Upto 300 mm	9.8 μ m	Using Depth Micro Checker/ Gauge Blocks by Comparison Method
11. 3 POINT MICROMETER \$ L.C.: 0.005 mm ^Φ	Upto 100 mm	3.5 μ m	Using Setting ring Gauge by Comparison Method

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12. DIAL GAUGE \$ (PLUNGER TYPE) & DIAL THICKNESS GAUGE/MILLIESS/ ZENTIME L.C.: 0.01 mm Φ L.C.: 0.01 mm Φ L.C.: 0.001 mm Φ	Upto 25 mm Upto 10 mm Upto 100 mm	6.7 μ m 2.9 μ m 2.3 μ m	Using Dial Calibration Tester/ ULM by Comparison Method
13. DIAL GAUGE \$ (LEVER TYPE) L.C.: 0.002 mm Φ L.C.: 0.002 mm Φ	Upto 0.2 mm Upto 2.0 mm	2.7 μ m 3.5 μ m	Using Dial Calibration Tester by Comparison Method
14. BORE GAUGE \$ (Transmission only) L.C.: 0.001 mm	Upto 2.5 mm	3.1 μ m	Using Dial Calibration Tester by Comparison Method
15. DIAL THICKNESS GAUGE \$ L.C.: 0.001 mm	Upto 50 mm	1.5 μ m	Using Gauge Blocks by Comparison Method
16. SNAP GAUGE & DIAL SNAP GAUGE \$	Upto 100 mm >100 mm to 200 mm	1.6 μ m 3.0 μ m	Using Gauge Blocks by Comparison Method
17. THREAD PLUG GAUGE \$ (Only Pitch Diameter & Major Diameter)	\emptyset 2 mm to \emptyset 100 mm > \emptyset 100 mm to \emptyset 300 mm	3.9 μ m 4.0 μ m	Using CDM/ULM/ Cylindrical Master/ Thread Measuring Wires Three Wire Method by Comparison Method

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18. PLAIN PLUG GAUGES/OD MASTERS/PIN GAUGES/GAP GAUGES/WIDTH GAUGE \$ (Diameter)	\varnothing 1 mm to \varnothing 100mm > \varnothing 200 mm to \varnothing 300mm	1.2 μ m 2.3 μ m	Using FCDM/Electronic Probe/ ULM/Slip Gauge by Comparison Method
19. PLAIN RING GAUGE \$	\varnothing 3 mm to 100 mm \varnothing 100 mm to 350 mm	1.2 μ m 3.9 μ m	Using ULM/Master Ring Gauge/ 'T' Probe by Comparison Method
20. THREAD RING \$ GAUGE(Only Pitch Diameter)	\varnothing 3 mm to \varnothing 150 mm \varnothing 150 mm to \varnothing 300 mm	1.9 μ m 3.9 μ m	Using ULM/Master Ring Gauge/ 'T' Probe by Comparison Method
21. TAPER THREAD PLUG GAUGE \$ (Only Pitch Diameter)	Upto \varnothing 100 mm	3.3 μ m	Using FCDM/Gauge Blocks Cylindrical Master/ Thread Measuring Wires/ Taper Measuring Accessories Three wire Method by Comparison Method
22. TAPER RING GAUGE \$ Major Diameter Angle	Upto \varnothing 200 mm	1.54 μ m 2.1 arc sec	Using ULM/Master Ring Gauge/ 'T' Probe by Comparison Method
23. MICROMETER HEAD \$ L.C.: 0.001 mm ^Φ	0 to 25 mm	1.3 μ m	Using Electronic Probe by Comparison Method
24. GLASS SCALE \$ L.C.: 1 mm	Upto 300 mm	4.7 μ m	Using ULM/Digital Camera by Comparison Method

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25. BEVEL PROTRACTOR/COMBINATION SQUARE ^{\$}	0-360°	4.5 arc min	Using Profile Projector by Comparison Method
26. STEEL SCALE ^{\$}	Upto 1000 mm	34+L/42 (Where 'L' is in mm)	Using ULM/Digital Camera by Comparison Method
27. DIAL CALIBRATION TESTER ^{\$}	Upto 25mm	2.0 μ m	Using Electronic Probe by Comparison Method
28. CYLINDRICAL/THREAD MEASURING WIRES ^{\$}	Upto \varnothing 10.0 mm	3.7 μ m	Using ULM by Comparison Method
29. PISTOL CALIPER ^{\$} L.C.: 0.1 mm	Upto 100 mm	57.8 μ m	Using Gauge Block by Comparison Method
30. LEG CALIPER ^{\$} L.C.: 0.01 mm ^Φ	Upto 150 mm	3.4 μ m	Using Gauge Block Slip gauge accessories by Comparison Method
31. THICKNESS FOILS ^{\$}	Upto 1.0 mm	1.2 μ m	Using Electronic Probe with stand Slip Gauge by Comparison Method
32. SPIRIT LEVEL ^{\$}	Sensitivity 0.02 mm/m 0.01mm/m	11.6 μ m 5.9 μ m	Using Electronic Level/ Surface plate/ Bridge by Comparison Method
33. ELECTRONIC LEVEL ^{\$}	0.01mm/m	5.9 μ m	Using Electronic Level & Surface Plate by Comparison Method

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34. ELECTRONIC PROBE ^{\$} L.C.: 0.001 mm ^Φ	Upto 25 mm	1.9 μ m	Using Gauge Blocks/ULM by Comparison Method
35. ELECTRONIC COMPARATOR ^{\$} L.C.: 0.001 mm L.C.: 0.0001 mm	Upto 1.5 mm Upto 0.2 mm	1.4 μ m	Using Gauge Blocks/ Comparator stand by Comparison method
36. FEELER GAUGE ^{\$}	Upto 2 mm	3 μ m	Using Digital Micrometer by Comparison Method
37. ENGINEER'S PARALLEL/HEIGHT BLOCK/RAISER BLOCK ^{\$}	Upto 200 mm	1.6 μ m	Using Electronic Probe & Surface Plate by Comparison Method
38. MEASURING TAPE ^{\$}	Upto 5000mm	40+L/56 (where 'L' is in mm)	Using ULM/ Digital Camera by Comparison Method
39. COMPARATOR /DIAL STAND ^{\$} (Flatness of Base)	Upto 350mm	2.2 μ m	Using Electronic Comparator by Comparison Method
40. RADIUS GAUGE ^{\$}	Upto 25R	4.3 μ m	Using Profile Projector by Comparison Method
41. THREAD PITCH GAUGE ^{\$}	Pitch Angle	4.2 μ m 4.0 arc min	Using Profile Projector by Comparison Method
42. PROFILE PROJECTOR [#]	Liner Angular Magnification	4.4 μ m 1.2 arc min 1%	Using Liner Glass Scale, Glass Protractor & Gauge Blocks by Comparison Method

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43. SURFACE PLATE #	5000 mm x 5000 mm	$1.3 \sqrt{\frac{L+W}{100}} \mu\text{m}$ (L&W in mm)	Using Electronic Level/ Bridge Scale Grid Method by Comparison Method
44. HEIGHT MEASURING SYSTEM *	Upto 1000 mm	$2.3+ L/400 \mu\text{m}$	Using Check Master Gauge Blocks Surface Plate by Comparison Method
45. VEDIO VISION SYSTEM *	Upto 300 mm (Linear)	$3.8 \mu\text{m}$	Using Glass Scale Gauge Block 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.

^o Laboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range

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