

Laboratory

SaRc Instruments, #132, 5th Cross, J.P. Nagar, 6th Phase, Ring Road, Iliyasa Nagar, Bangalore, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number

CC-2476 (in lieu of C-0468)

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Validity

27.12.2017 to 26.12.2019

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
1.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Calipers ^s (Vernier, Dial & Digital) L.C.: 0.01 mm ϕ	0 to 300 mm 0 to 600 mm 0 to 1000 mm	10 μ m 12.5 μ m 15.3 μ m	Using Caliper Checker/ Gauge Blocks/Long Gauge Blocks / By Comparison Method
2.	Depth Gauge ^s (Vernier, Dial & Digital) L.C.: 0.01 mm ϕ	0 to 300 mm	10.3 μ m	Using Depth Micro Checker/Gauge Blocks
3.	Height Gauges ^s (Vernier, Dial & Digital) L.C.: 0.01 mm ϕ	0 to 300 mm 0 to 600 mm 0 to 1000 mm	10.4 μ m 12.8 μ m 19.6 μ m	Using Caliper Checker/Gauge Blocks/Long Gauge Block By Comparison Method
4.	External Micrometers of (Analogue/Digital) ^s L.C.: 0.001 mm ϕ	0 to 100 mm 100 mm to 300 mm 300 mm to 500 mm 500 mm to 900 mm	2.4 μ m 4.6 μ m 7.7 μ m 12.8 μ m	Using Gauge Blocks/ Long Gauge Block/ Electronic Comparator/ ULM/ Optical Parallels/ Optical Flat Monochromatic Light Source By Comparison Method
5.	Thread Pitch Micrometer ^s L.C.: 0.001mm ϕ	25 mm to 50 mm	10.5 μ m	Using Gauge Blocks/ Profile Projector By Comparison Method

Abhinav Thakur
Convenor

Avijit Das
Program Director

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6.	Stick Micrometer [§] L.C.: 0.01mm	25 mm to 250 mm	7.0 μ m	Using Gauge Blocks/ Profile Projector By Comparison Method
7.	Micrometer Setting Rod [§]	25 mm to 300 mm 300 mm to 500 mm 500 mm to 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
8.	Internal Micrometer [§] (Analogue & Digital Type) L.C.: 0.001mm	5 mm to 100 mm	7.4 μ m	Using Gauge Blocks/ Slip Gauge Holder By Comparison Method
9.	Depth Micrometer [§] (Analogue & Digital Type) L.C.: 0.001mm ^ϕ	0 to 300 mm	9.8 μ m	Using Depth Micro Checker By Comparison Method
10.	Three Point Bore Micrometer [§] L.C.: 0.005 mm ^ϕ	6 mm to 100 mm	3.5 μ m	Using Setting Ring Gauge By Comparison Method
11.	Dial Gauge [§] Plunger Type L.C.: 0.001 mm ^ϕ	0 to 25 mm 0 to 100 mm	6.7 μ m 2.3 μ m	Using Dial Calibration Tester/ ULM By Comparison Method
12.	Dial Comparator [§] L.C.: 0.0005 mm ^ϕ	0 \pm 0.025 mm 0 \pm 0.050 mm	2.3 μ m 2.3 μ m	Using Dial Calibration Tester/ ULM By Comparison Method

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13.	Dial Gauge [§] (Lever Type) L.C.: 0.001 mm Φ	0 to 0.2 mm 0 to 2.0 mm 0 to 1 mm	2.7 μ m 3.5 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	0 to 50 mm	1.5 μ m	Using Gauge Blocks By Comparison Method
16.	Snap Gauge [§]	3 mm to 100 mm 100 mm to 275 mm	1.6 μ m 3.0 μ m	Using Gauge Blocks By Comparison Method
17.	Dial Snap Gauge [§] L.C.: 0.01 mm	3 mm to 100 mm 100 mm to 200 mm	3.0 μ m 4.9 μ m	Using Gauge Blocks By Comparison Method
18.	Thread Plug Gauge [§] (Pitch Diameter & Major Diameter)	\varnothing 2 mm to \varnothing 100 mm > \varnothing 100 mm to \varnothing 300 mm	3.9 μ m 4.1 μ m	Using FCDM/ULM/ Cylindrical Master/ Thread Measuring Wires Three Wire Method By Comparison Method
19.	Plain Plug Gauges/ OD Masters/ Gap Gauges/ Width Gauge [§]	Upto \varnothing 100mm > \varnothing 100 mm to \varnothing 300mm	1.2 μ m 2.3 μ m	Using ULM By Comparison Method
20.	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 by Comparison Method

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21.	Thread Ring Gauge [§]	\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
22.	Taper Thread Plug Gauge [§] (Only Pitch Diameter)	Upto \varnothing 100 mm	4.8 μ m	Using FCDM/Gauge Blocks Cylindrical Master/ Thread Measuring Wires/ Taper Measuring Accessories Three wire Method By Comparison Method
23.	Taper Ring Gauge [§] Major Diameter Angle	Upto \varnothing 200 mm	6.60 μ m 4.5 arc sec	Using ULM/Master Ring Gauge/ 'T' Probe By Comparison Method
24.	Micrometer Head [§] L.C.: 0.001 mm ^Φ	0 to 25 mm	2.0 μ m	Using Electronic Probe By Comparison Method
25.	Glass Scale [§] L.C.: 1 mm	0 to 300 mm	12.0 μ m	Using ULM/Digital Camera By Comparison Method
26.	Bevel Protractor [§] L.C.: 5'	0 to 90°	4.5 min	Using Profile Projector By Comparison Method
27.	Combination Set [§] L.C.: 1°	0 to 180°	35 min	Using Profile Projector By Comparison Method
28.	Steel Scale [§]	0 to 1000 mm	34+L/42 (Where 'L' is in mm)	Using ULM/Digital Camera by Comparison Method

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29.	Dial Calibration Tester [§] L.C.: 0.001mm ^Φ	0 to 25 mm	2.0 μ m	Using Electronic Probe by Comparison Method
30.	Thread Measuring Wire Set [§]	0.170 mm to 6.35 mm	1.1 μ m	Using ULM By Comparison Method
31.	Measuring Pins [§]	0.1 mm to 20 mm	1.1 μ m	Using ULM By Comparison Method
32.	Pistol Caliper [§] L.C.: 0.1 mm	0 to 50 mm	58 μ m	Using Gauge Block By Comparison Method
33.	Leg Caliper [§] L.C.: 0.01 mm ^Φ	0 to 150 mm	7.0 μ m	Using Gauge Block Slip Gauge Accessories By Comparison Method
34.	Thickness Foils [§]	0-1.0 mm	1.2 μ m	Using Electronic Probe with stand Slip Gauge By Comparison Method
35.	Spirit Level [§]	Sensitivity: 0.02 mm/m	11.6 μ m	Using Electronic Level/ Surface Plate By Comparison Method
36.	Electronic Level [§]	0.01mm/m	9.4 μ m	Using Electronic Level & Surface Plate By Comparison Method
37.	Electronic Probe [§] L.C.: 0.001 mm ^Φ	0 to 25 mm	1.9 μ m	Using Gauge Blocks/ULM By Comparison Method
38.	Electronic Comparator [§] L.C.: 0.001 mm ^Φ	0 to 1.5 mm 0 to 0.2 mm	1.4 μ m 1.4 μ m	Using Gauge Blocks/ Comparator stand by Comparison method

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39.	Feeler Gauge ^{\$}	0 to 1 mm	3.0 μ m	Using Digital Micrometer By Comparison Method
40.	Engineer's Parallel/Height Block/Raiser Block ^{\$}	200 mm x 200 mm	1.6 μ m	Using Electronic Probe & Surface Plate By Comparison Method
41.	Measuring Tape ^{\$}	Upto 50000 mm	40+L/56 (where 'L' is in mm)	Using ULM/ Digital Camera By Comparison Method
42.	Comparator / Dial Stand ^{\$} (Flatness)	350 mm x 350 mm	2.2 μ m	Using Electronic Comparator By Comparison Method
43.	Radius Gauge ^{\$}	Upto 25 mm	5.3 μ m	Using Profile Projector By Comparison Method
44.	Thread Pitch Gauge ^{\$} Pitch Angle	Upto 6 mm 60° & 55°	5.7 μ m 4.0 arc min	Using Profile Projector By Comparison Method
45.	Profile Projector [#] Linear Angular Magnification	0 to 300 mm 0 to 360° 10X to 100X	4.4 μ m 1.2 arc min 1%	Using Liner Glass Scale, Glass Protractor & Gauge Blocks by Comparison Method
46.	Surface Plate [#]	3000 mm x 2000 mm	$1.3 \sqrt{\frac{L+W}{100}}$ μ m (L&W in mm)	Using Electronic Level Method by Comparison Method
47.	Height Measuring System [#] L.C.: 0.0001mm ^ϕ	0 to 600 mm 600 to 1000 mm	10.6 μ m 14.2 μ m	Using Check Master Gauge Blocks Surface Plate By Comparison Method

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48.	Video Vision System [#] L.C.: 0.0001 mm Linear	0 to 300 mm	3.8 μ 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

[#] 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 using same reference standard/ master equipment under the scope of accreditation.