

Laboratory Tespa Calibrations Services, No. 944, Hennagara Cross, Hosur Main Road, Chandapura, Anekal Tk, Bangalore, Karnataka

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2453

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Validity 15.11.2017 to 14.11.2019

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.	Gauge Blocks ^s	0.5 upto 10mm Above 10mm and upto 25mm Above 25mm and upto 50mm Above 50mm and upto 75mm Above 75mm and upto 100mm	0.19 μ m 0.21 μ m 0.25 μ m 0.29 μ m 0.34 μ m	Using Gauge Block Calibrator
2.	External Micrometer ^s (Mech/Dial/Digital) L.C.: 0.001mm L.C.: 0.01mm	Upto 100mm Upto 100mm Above 100mm upto and 300mm Above 300mm and upto 500mm	1.5 μ m 5.0 μ m 7.1 μ m 12.0 μ m	Using Gauge Blocks
3.	Dial Thickness Gauge ^s L.C.:0.01mm	0 to 50mm	5 μ m	Using Gauge Blocks
4.	Depth Micrometer ^s L.C.:0.01mm	0 to 300 mm	5.8 μ m	Using Long Gauge Blocks & Slip Gauge

Ashish Kakran
Convenor

Avijit Das
Program Director

Laboratory

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5.	Depth Caliper [§] (Vernier/Digital) L.C.:0.01mm	0 to 300mm	8.0 μ m	Using Long Gauge Blocks & Slip Gauge
6.	Plain Plug Gauges [§]	Upto \varnothing 100mm Above \varnothing 100mm and upto 200mm	0.7 μ m 1.1 μ m	Using ULM
7.	Thread Plug Gauges [§]	Upto \varnothing 100mm Above \varnothing 100mm and upto 300mm	1.3 μ m 2.5 μ m	Using ULM
8.	Plain Ring Gauges [§]	Above \varnothing 3mm Up to 100mm Above \varnothing 100mm and upto 300mm	1.2 μ m 1.5 μ m	Using ULM
9.	Thread Ring Gauges [§]	\varnothing 3mm to 90 mm	1.2 μ m	Using ULM
10.	Vernier Caliper [§] (Vernier/Digital/Dial) L.C.:0.01mm	Up to 300mm Above 300mm and Upto 600mm	8.8 μ m 15.0 μ m	Using Caliper Checker
11.	Dial Gauges [§] (Plunger Type) L.C.:0.001mm	Upto 25 mm Above 20mm and Upto 50mm	1.0 μ m 1.5 μ m	Using ULM

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12.	Dial Test Indicator (Lever Type) [§] L.C.:0.001mm	0 to 2 mm	1.0 μ m	Using ULM
13.	Height Gauges L.C.:0.01mm [§]	Upto 600mm Upto 1000mm	10.3 μ m 18.0 μ m	Using Elec.Height Gauge & Long Gauge Block (Comparison method)
14.	2D – Electronic Height Gauge [#] L.C.:0.0001mm	Upto 600mm	2 + L/300 μ m (L in mm)	Using Long Gauge Blocks & Square
15.	Snap Gauge / Gap Gauge [§]	10mm to100mm 100 mm to 300mm	1.5 μ m 3.0 μ m	Using ULM
16.	Receiver Gauge [§]	Upto 300mm	3.0 μ m	Using CMM
17.	Feeler Gauge [§]	Upto 1.0mm	2.3 μ m	Using Micrometer
18.	Radius Gauge [§]	Upto 25mm	5.0 μ m	Using Video measuring system
19.	Pitch Gauge [§]	Up to 5mm	5.4 μ m	Using Video measuring system
20.	Caliper Checker [§]	0 to 600mm	5.0 μ m	Using Elec.Height Gauge and Long Gauge Blocks
21.	Long Gauge Block [§]	Above 100mm and upto 300mm Above 300mm an upto 500mm	1.2 μ m 3.3 μ m	Using ULM

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22.	Stick Micrometer [§] L.C.:0.001mm	2.5 to 50mm	3.0 μ m	Using ULM
23.	Extension Rods [§] (for Stick Micrometer)	5mm to 600mm	5.0 μ m	Using ULM
24.	Bore Dial Gauge [§] (for transmission) Travel 1.5mm	\varnothing 6 Up to 500mm	2.0 μ m	Using ULM
25.	Engineer Square/Straight Edge [§] (Flatness & Squareness)	Up to 600mm	3.7 μ m	Using CMM
26.	V- Block [§] (Parallelism) (Flatness/ (Squareness)	Up to 300mm	4.0 μ m	Using CMM
27.	Angle Plate [§] (Straightness Angle Squareness)	Up to 300mm	15 Arc/Sec	Using CMM
28.	Bevel Protractor [§] L.C.:5 Min	-	45 Arc sec	Using CMM
29.	Measuring Pin / Measuring Wire [§]	Up to 20mm	0.7 μ m	Using ULM

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30.	Electronic Probe ^{\$} (LVDT) L.C.:0.1 μ m	Up to 10mm	0.6 μ m	Using ULM
31.	Setting Bench [#] (Pre setter) L.C.:1 μ m	0 to 500mm	3.3 μ m	Using Long Gage Blocks
32.	3-Point Bore Gauge ^s L.C.:1 μ m	Above 6mm and up to 12mm Above 11 mm and up to 20mm Above 20 mm and up to 40mm Above 40mm and up to 100mm	4.0 μ m 4.5 μ m 5.0 μ m 6.0 μ m	Using Setting Rings
33.	3D Co-ordinate Measuring Machine* (CMM) L.C.:0.1 μ m	500x500x500	[1+(L/200)] (L in mm)	Using Gage Blocks and Long gauge Block
MOBILE FACILITY				
1.	External Micrometers L.C.:0.001mm	Upto 50 mm >50 mm to 100 mm	1.5 μ m 2.5 μ m	Using Gauge Block
2.	Plain Plug Gauges	Up to \varnothing 100 mm	1.0 μ m	Using Horizontal Measuring Bench

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
3.	Thread Plug Gauges	Up to \varnothing 100 mm	1.8 μ m	Using Horizontal Measuring Bench
4.	Ring Gauges	Up to \varnothing 100 mm	1.51 μ m	Using Horizontal Measuring Bench
5.	Vernier Caliper (Vernier/ Dial/Digital) L.C.:0.01mm	Up to 300 mm >300 mm to 600 mm	12.6 μ m 19.0 μ m	
6.	Plunger Dial Gauge L.C.:0.001mm	Up to 10 mm Up to 25 mm Up to 50 mm	1.1 μ m 1.7 μ m 4.0 μ m	Using Caliper Checker
7.	Lever Type Dial Gauge L.C.:0.001mm	Up to 2mm	1.0 μ m	Using Dial calibration Tester and Horizontal measuring Bench
8.	Height gages L.C.:0.01mm	Up to 300 mm Up to 600 mm	10.5 μ m 12.3 μ m	Using Electronic Height gage and Long gage blocks
9.	Electronic Height Gauge L.C.:0.0001mm	Up to 600 mm	2 + L/ 125 μ m L in mm	Using Long gage blocks

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10.	3-Point Bore Gauge L.C.:0.001mm	Above 6mm and up to 12mm Above 11 mm and up to 20mm Above 20 mm and up to 40mm Above 40mm and up to 100mm	4.0 mm 4.5 mm 5.0 μ m 6.0 mm	Using Setting Rings
11.	Bore Dial gage (only for transmission 2mm)	Up to 300mm	2.5 mm	Using Dial Calibration tester

* 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.

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