

Laboratory Tanson Instrument, B-7, Ashoka Enclave Phase II, Sector 37,
Faridabad, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2660 (In lieu of C-1065)

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Validity 22.04.2018 to 21.04.2020

Last Amended on 12.11.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I. DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)				
1.	Step Gauges [§]	Upto 1000 mm	$0.6 + \sqrt{\frac{L}{800}}$ μm "L" in mm	Using Laser Interferometer & LVDT by Comparison Method
2.	Long Gauge Blocks [§]	Upto 1000 mm	$0.6 + \sqrt{\frac{L}{800}}$ μm "L" in mm	Using Laser Interferometer & LVDT by Comparison Method
3.	Height Master [§]	Upto 600 mm	$0.6 + \sqrt{\frac{L}{800}}$ μm "L" in mm	Using Laser Interferometer & Lever Dial Gauge by Comparison Method
4.	Granite Square / Try Square [§] (Squareness)	Upto 700 mm x 700 mm	3.0 μm	Using Co-ordinate Measuring Machine by Comparison Method
5.	Setting Rods [§]	Upto 1000 mm	$0.7 + \sqrt{\frac{L}{900}}$ μm "L" in mm	Using Laser Interferometer, 3D Measuring Machine & LVDT Probe by Comparison Method
6.	Straight Edge Engineers Square [§]	Upto 1000 mm	3.0 μm	Using Co-ordinate Measuring Machine by Comparison Method
7.	Steel Scale [§]	Upto 1000 mm	10.0 $\mu\text{m}/\text{m}$	Using Laser Interferometer, 3D Measuring Machine &

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				LVDT Probe by Comparison Method
8.	Plain Plug Gauges ^s	Upto \varnothing 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method
9.	Thread Plug Gauge ^s (Effective Dia) (Major Dia)	Upto \varnothing 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method
10.	Taper Plug Gauges ^s (Half Angle, Gauge Length, Major Dia., Minor Dia.)	Upto 6° Maximum Dia. 200 mm	2" $0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method
11.	Angle Gauges ^s	Upto 90°	3.0" Arc	Using Laser Interferometer & Reference Angle Gauges by Comparison Method
12.	Rotary Table ^s	0 to 360°	3.0 " Arc	Using Laser Interferometer & Reference Angle Gauges by Comparison Method
13.	Precision Spirit Level ^s L.C: 10 μ m/m	Upto 2 mm	0.01mm/m	Using Laser Interferometer & Precision Rotary Table by Comparison Method

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14.	Lever Type Dial Gauge ^s (Analog/Digital) L.C: 0.1 μ m	Upto 5 mm	0.6 μ m	Using Length Measuring Machine(LMM) by Comparison Method
15.	Plunger Type Dial Gauge ^s (Analog/Digital) L.C: 0.1 μ m	Upto 100mm	0.6 μ m	Using Length Measuring Machine(LMM) by Comparison Method
16.	Electronic Probe System ^s L.C: 0.1 μ m	Upto 100 mm	0.6 μ m	Using Length Measuring Machine(LMM) by Comparison Method
17.	Radius Gauge ^s	Upto 50 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
18.	PCD Gauges ^s Center Distance Position Profile	Upto 1000 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
19.	Fixture Gauges ^s Position ^s Flatness Angle Parallelism	Upto 1000 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
20.	Angle Plates / Box Angle Plates ^s	1000 mm x 600 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
21.	Test Mandrel ^s Dimensional Runout Coaxiality	Upto 600 mm x 100 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method

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22.	Cylindrical Setting Master /Reference Disc ^s	Upto \varnothing 1000 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
23.	Spline Plug Gauges ^s	\varnothing 4 mm to 200 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
24.	Cylindrical Measuring Pin ^s	\varnothing 0.1 mm to 50 mm	0.5 μ m	Using Length Measuring Machine (LMM) by Comparison Method
25.	Gauge Block Accessories ^s	Upto 600 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
26.	Chamfer Gauge ^s	1 to 400 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
27.	Snap Gauge ^s	Upto 200 mm	0.5+3L/1000 μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method
28.	Filler Gauge ^s	Upto 2 mm	1.0 μ m	Using Universal Length Measuring Machine (ULM) by Comparison Method
29.	Inclinometer ^s	Upto 90°	3.0" Arc	Using Angle Gauge by Comparison Method
30.	Circular Glass Scale ^s	Upto 360°	3.0" Arc	Using Precision Rotary Table by Comparison Method

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31.	Comparator Stand [§] Flatness & Squareness	Upto 300 mm x 300 mm	2.18 μ m	Using Co-ordinate Measuring Machine by Comparison Method
32.	Templates Radius, Angle, Position [§]	Upto 600 mm	3.0 μ m	Using Co-ordinate Measuring Machine by Comparison Method
33.	Optical Flat/Parallel Flatness Parallelism [§]	Upto 50 mm	0.5 μ m	Using Master Optical Flat with Monochromatic Light Source by Comparison Method
34.	Sphere Ball [§]	Upto 50 mm	0.18+3L/1000 μ m L is in mm	Using ULM by Comparison Method
35.	Height Gauge* (Vernier/Dial/Digital) Res: 0.1 μ m	Upto 1000 mm	$0.6 + \sqrt{\frac{L}{800}}$ μ m "L" in mm	Using Laser Interferometer & Lever Dial Gauge by Comparison Method
36.	Universal Measuring Microscope* LMM/ULM/ Metroscope/PMS Res: 0.01 μ m	Up to 3 m	$0.25 + \sqrt{\frac{L}{1200}}$ μ m	Using Laser Interferometer with Linear Optics by Comparison Method
37.	Gauge Measuring Centres* Res: 1 μ m	Up to 1000 mm	$2.0 + \sqrt{\frac{L}{1000}}$ μ m	Using Laser Interferometer with Linear Optics by Comparison Method
38.	CNC Systems Pos. Accy* Pitch & Yaw	Upto 12 m Upto 8 m	$0.5 + \sqrt{\frac{L}{1000}}$ μ m L is in mm 0.8 s/m	Using Laser Interferometer with Linear & Angular Optics by Comparison Method

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39.	Scale & Tape Calibrator* Res: 1 μ m	Upto 5 m	$0.5 + \sqrt{\frac{L}{1000}}$ μ m L is in mm	Using Laser Interferometer with Linear Optics by Comparison Method
40.	Vision Measuring System* Res: 0.1 μ m	Upto 600 mm	2.8 μ m	Using Laser Interferometer with Linear Optics by Comparison Method
41.	Taper Thread Plug Gauge ^s (Half Angle, Gauge Length, Major Dia., Minor Dia.)	Upto \varnothing 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method Based on ANSI/ASME/B1 205
42.	Plain Ring Gauge ^s	Upto \varnothing 4 mm to 100 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method Based on IS 2334
43.	Thread Ring Gauge ^s (Effective Dia) (Major Dia)	Upto \varnothing 4 mm to 100 mm Above 100 Upto 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method Based on IS 2334
44.	Taper Ring Gauge ^s (Half Angle, Gauge Length, Major Dia, Minor Dia.)	Upto \varnothing 4 mm to 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method

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45.	Taper Thread Ring Gauge ^s	Upto \varnothing 4 mm to 600 mm	$0.5 + \sqrt{\frac{3L}{1000}}$ μ m L is in mm	Using Universal Length Measuring Machine (ULM) by Comparison Method Based on ANSI/ASME/B1 2 0.5 & H-28
46.	Bevel Protector ^s	Upto 180°	3.0 Arc Sec	Using Angle gauge set
47.	Sine Bar ^s (Centre Distance Parallelism and Flatness of the Top Surface)	Upto 600 mm	3 μ m	Using Co-ordinate Measuring Machine
48.	Taper Test Mandrell ^s Dimensional Runout Coaxiality	Upto 600 mm x 100 mm	3.0 μ m	Using Co-ordinate Measuring Machine
II.	DIMENSION (PRECISION INSTRUMENTS)			
1.	Caliper Checker ^s	Upto 1000mm	$0.6 + \sqrt{\frac{L}{800}}$ μ m "L" in mm	Using Laser Interferometer & LVDT by Comparison Method
2.	Autocollimeter ^s LC: 0.1" Arc LC: 1" Arc	20' Arc 20' Arc	1.1" Arc 2.0" Arc	Using Laser Interferometer & Precision Rotary Table by Comparison Method
3.	Electronic Level ^s LC. 1 μ m/m	Upto 5 mm	5.0 μ m/m	Using Laser Interferometer & Precision Rotary Table by Comparison Method

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4.	Gauge Blocks [§]	0 to 25mm Above 25 mm Upto 50 mm Above 50 mm Upto 75 mm Above 75 mm Upto 100 mm	0.08 μ m 0.11 μ m 0.12 μ m 0.15 μ m	Using Gauge Block Comparator & Master Gauge Blocks by Comparison Method
5.	Glass Scale [§]	Upto 1000 mm	2 L L is in m	Using Laser Interferometer & LVDT by Comparison Method
6.	Dial Gauge Calibrator [*] Res: 0.1 μ m	Up to 100 mm	0.3+1.2 L μ m L is in m	Using Laser Interferometer with Linear Optics by Comparison Method
7.	Profile Projector [*] Linear Angular Magnification	Upto 2 m 360° Upto 100 X	$0.5 + \sqrt{\frac{L}{1000}}$ 2.8 Arc Sec 1%	Using Laser Interferometer with Linear Optics / Angle Gauge Set / Glass Scale by Comparison Method
8.	Co-Ordinate Measuring Machine [*] (CMM) Res: 0.1 μ m Volumetric	Up to 8000 mm	$\pm(0.5+1.2L)\mu$ m "L" in meter $\pm(1.0+2.5L)\mu$ m "L" in meter	Using Laser Interferometer with Linear Optics & Gauge Blocks by Comparison Method based on IS 10360

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

§Only in Permanent Laboratory

*Only for Site Calibration

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