

Laboratory TMC Measuring Instruments Pvt. Ltd., L-16, Empire Estate,
 Chinchwad, Pune, Maharashtra
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2716 (in lieu of C-0083) **Page** 1 of 5
Validity 17.05.2018 to 16.05.2020 **Last Amended on** 28.05.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>MECHANICAL CALIBRATION</u>				
1.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Calliper of Various Type (Digital, Dial, Vernier etc.) ^{\$} L.C.: 0.01 mm	0 to 600 mm	11.0 μ m	Using Slip Gauge Blocks Comparison IS 3651-1 IS 3651-2 DIN 862
2.	Height Gauge* L.C.: 0.0001 mm	0 to 600 mm	5.0 μ m	Using Slip Gauge Blocks Surface Plate Comparison IS 2921
3.	Vernier Depth Gauge ^{\$} L.C.: 0.01 mm	0 to 300 mm	10.0 μ m	Using Slip Gauge Blocks Surface Plate Comparison IS 4213
4.	External Micrometer (Inclusive of Point, Thread Pitch, Analogue, Digital, Disc, Depth) ^{\$} L.C.: 0.001 mm L.C.: 0.001 mm	0 to 100 mm >100 mm to 400 mm	1.2 μ m 3.02 μ m	Using Slip Gauge Blocks Metroscope Comparison IS 2967 DIN863
5.	Internal Micrometer ^{\$} L.C.: 0.01 mm	0 to 100 mm	3.1 μ m	Using LMM by Comparison IS 2966
6.	Setting Rod/Distance Master ^{\$}	0 to 400 mm	3.0 μ m	Using LMM by Comparison IS 3455

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 Convenor

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 Program Director

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7.	Plunger Dial Gauge ^{\$} L.C.: 0.01 mm L.C.: 0.001 mm	0 to 50 mm 0 to 13 mm	3.05 μ m 1.1 μ m	Using LMM by Comparison IS 2092 DIN 878
8.	Lever Dial Gauge ^{\$} L.C.: 0.001 mm	0 to 2 mm	1.0 μ m	Using LMM by Comparison IS 11498
9.	Test Sieve ^{\$}	Upto 3.5 mm x 3.5 mm	11.6 μ m	Using Profile projector by Comparison IS 460 -1 IS 460-3
10.	Plain Ring Gauge ^{\$}	3 mm to 100 mm >100 mm to 300 mm	1.85 μ m 2.8 μ m	Using LMM by Comparison IS 3485
11.	Plain Plug Gauge / OD Master/ Width Gauge /Diatest Plug ^{\$}	0 to 100 mm >100 mm to 300 mm	1.43 μ m 2.69 μ m	Using LMM by Comparison IS 3455
12.	Thread Plug Gauge ^{\$}	0 to 200 mm	2.8 μ m	Using LMM by Comparison IS 4218 IS 2334 IS 14962
13.	Thread Ring Gauge ^{\$}	3 mm to 90 mm	3.00 μ m	Using LMM by Comparison IS 4218 IS 2334 IS 14962
14.	Radius Gauge ^{\$}	0.5 mm to 25 mm	11.8 μ m	Using Profile Projector IS 5273

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15.	Bevel Protractor ^{\$} L.C.: 1 minute	0° to 360°	3' of Arc	IS 4239 IS 5812
16.	Feeler Gauge / Folls ^{\$}	0.01 mm to 1.5 mm	0.8 μ m	Using LMM by Comparison IS 3179
17.	Snap Gauge ^{\$} (Inclusive of dial)	1 mm to 31 mm >31 mm to 300 mm	1.0 μ m 2.74 μ m	Using LMM by Comparison IS 8023
18.	Profile Projector [#] Linear (L.C.: 0.001 mm) Angle (L.C.: 1 Sec)	0 to 300 mm 0° to 360°	11.2 μ m 82.30 sec	Using Glass Scale and Angle Master VDI/VDE 2617
19.	Bore Gauge ^{\$} (Inclusive of Diatest Plug) Transmission L.C.: 0.001 mm	0 to 300 mm	2.3 μ m	Using LMM by Comparison JISB 7515
20.	Surface Roughness Master ^{\$}	Ra, Rz, Rmax, Pt	8.2%	Using Surface Roughness Tester DIN 4772
21.	Surface Roughness Tester ^{\$}	Ra 20 μ m Rz 80 μ m Rmax 80 μ m	5.8 %	Using Surface Roughness Master DIN 4772
22.	Thread Pitch Gauge ^{\$} Pitch Angle	Upto – 10 mm	11.8 μ m 175 Sec	Using Profile Projector by Comparison IS 4211
23.	Universal Length Measuring Machine [#] L.C.: 0.0001 mm	0 to 100 mm	0.63 μ m	Using Slip Gauge Blocks by Comparison VDI/VDE2617

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Certificate Number CC-2716 (in lieu of C-0083) **Page** 4 of 5
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24.	Dial Snap Gauge ^{\$}	0 to 300 mm	3.89 μ m	Using slip gauge by Comparison IS 14271
25.	Taper Thread Plug Gauge ^{\$}	Upto - 3 mm x 8 mm	4.0 μ m	Using LMM by Comparison ANSI B 12.5
26.	Three Point Micrometer ^{\$} L.C.: 0.001 mm	0 to 100 mm	2.6 μ m	Using LMM and Setting Rings by Comparison DIN 863-4
27.	CMM [#] Linear Volumetric	Upto -500 mm	7.3 μ m 7.3 μ m	Using Slip Gauge Blocks by Comparison ISO 10360 -2 ASME B89
28.	Thread Measuring Wires / Cylinders ^{\$}	0.01 mm to 100 mm	1.09 μ m	Using LMM by Comparison IS 11103
29.	Vision (Video) Measuring Machine [#] Linear (L.C.: 0.001 mm) Angle (L.C.: 1 Sec)	0 to 300 mm 0° to 360°	11.2 μ m 82.30 Sec	Using Glass Scale/ Glass grid, angle master by Comparison VDI/VDE 2617
II.	HARDNESS TESTING MACHINES			
1.	Rockwell/ Superficial Rockwell Hardness Testing Machines [*]	HRA HRBW HRC HR30N HR30TW	0.78 HRA 0.82 HRBW 0.53 HRC 0.70 HR30N 0.88 HR30TW	Based on IS 1586-2:2012 By Indirect Method

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2.	Micro Vickers/ Vickers Hardness Testing Machines*	HV 0.3 HV 1 HV 10	1.70 % 1.90 % 2.47 %	Based on IS 1501-2: 2013 By Indirect 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.

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