

Laboratory Technical Services Department, BHEL, Piplani, Bhopal, Madhya Pradesh

Accreditation Standard ISO/IEC 17025:2005

Discipline Mechanical Calibration

Issue Date 05.12.2015

Certificate Number C-0043

Valid Until 04.12.2017

Last Amended on 29.02.2016

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Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (\pm)	Remarks
I. DIMENSION			
1. GAUGE BLOCK SET ^{\$}	0.5 mm to 25 mm >25 mm to 50 mm 50 mm to 100 mm	0.14 μ m 0.46 μ m 0.68 μ m	Using Gauge Block Set & Gauge Block Calibrator by Comparison Method
2. CALIPER ^{\$} (Vernier /Dial/Digital) L.C.: 10 μ m ^Φ	0 to 600 mm	13.0 μ m	Using Caliper Checker & External Micrometer by Comparison Method
3. HEIGHT GAUGE ^{\$} (Vernier /Dial/Digital) L.C.: 10 μ m ^Φ	0 to 600 mm	14 μ m	Using Caliper Checker & Surface Plate By Comparison Method
4. EXTERNAL MICROMETER ^{\$} L.C.: 1 μ m ^Φ	0 to 300 mm	6.9 μ m	Using Gauge Block Set by Comparison Method
5. DEPTH MICROMETER ^{\$} L.C. : 10 μ m	Upto 300 mm	6.4 μ m	Using Gauge Block Set & Depth Micro Checker by Comparison Method
6. MICROMETER SETTING ROD ^{\$}	Upto 275 mm	1.1 μ m	Using ULM by Comparison Method
7. PLUNGER DIAL GAUGE ^{\$} L.C.: 1 μ m L.C. : 10 μ m	Upto 5 mm Upto 25 mm	1.0 μ m 5.9 μ m	Using Dial Calibration Tester by Comparison Method
8. PLAIN PLUG GAUGE ^{\$}	Upto 100 mm >100 mm to 225 mm	1.5 μ m 4.3 μ m	Using ULM by Comparison Method

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9. PLAIN RING GAUGE ^{\$}	Upto 225 mm	3.4 μ m	Using ULM & Master Ring Gauge by Comparison Method
10. THREAD PLUG GAUGE EFFECTIVE DIAMETER ^{\$}	Upto 220 mm	6.1 μ m	Using ULM & Thread Measuring Wires by Comparison Method
11. THREAD RING GAUGE EFFECTIVE DIAMETER ^{\$}	Upto 100 mm >100 mm to 220 mm	1.4 μ m 7.1 μ m	Using ULM & Master Ring by Comparison Method
II. PRESSURE AND VACUUM			
1. PRESSURE ^{\$} (Hydraulic) (Dial / Digital Gauge)	1 kg/cm ² to 60 kg/cm ² 120 kg/cm ² to 1200 kg/cm ²	0.24 % rdg 0.06 % rdg	Using Dead Weight Tester by Direct Method
2. PRESSURE ^{\$} (Pneumatic) (Dial / Digital / Gauge)	0 to 20 bar	0.47 % rdg	Using Digital Pressure Calibrator by Comparison Method
3. VACUUM ^{\$} (Dial/Digital Gauge)	(-) 0.9 kg/cm ² to 0 kg/cm ²	0.94% rdg	Using Digital Manometer/Pressure Calibrator by Comparison Method
4. ABSOLUTE PRESSURE ^{\$} (Dial /Digital Gauge)	1000 mbar to 10 mbar 1 mmHg to 0.001 mm g	1.76 % rdg 1.61 % rdg	Using Vacuum Calibrator by Comparison Method

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III. ACCELERATION AND SPEED			
1. DIGITAL TACHOMETER[§] (Non Contact Type)	85 rpm to 18000 rpm	0.3 % to 0.15 %	Using Digital Tachometer & Stroboscope by Comparison Method
2. RPM COUNTER[*]	85 rpm to 20000 rpm	0.5 % to 0.15 %	Using Digital Tachometer 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
^Φ 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.

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