

**Laboratory**                      **QA Tech (A Division of GMP Technical Solutions Pvt. Ltd.), L-73, Verna Industrial Estate, Verna Salcette, Goa**

**Accreditation Standard**   **ISO/IEC 17025:2005**

**Discipline**                      **Mechanical Calibration**                      **Issue Date**      **09.02.2015**

**Certificate Number**        **C-0868**                      **Valid Until**      **08.02.2017**

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Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
<b>I. DIMENSION</b>			
<b>1. CALIPER<sup>§</sup></b> (Vernier / Dial / Digital) L.C. :-10µm <sup>Ⓟ</sup>	0 to 300 mm	13 µm	Using Caliper Checker; & T.C. Gauge Block Set by Comparison Method
L.C. :- 20µm	0 to 1000 mm	22 µm	Using Caliper Checker; T.C. Gauge Block Set & Master Setting Rod by Comparison Method
<b>2. DEPTH GAUGE<sup>§</sup></b> (Vernier / Dial / Digital) L.C. :- 20µm	Upto 300 mm	15 µm	Using Depth Micrometer Checker & Surface Plate by Comparison Method
<b>3. HEIGHT GAUGE<sup>§</sup></b> (Vernier / Dial / Digital) L.C. :- 10µm <sup>Ⓟ</sup>	0 to 600 mm	13 µm	Using Caliper Checker & Surface Plate by Comparison Method
<b>4. EXTERNAL MICROMETER<sup>§</sup></b> L.C. :- 1µm L.C. :- 10µm	0 to 50 mm 0 to 200 mm	1.5 µm 6.1 µm	Using Gauge Block Set & Optical Flat by Comparison Method

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**Shally Sharma**  
Convenor

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**Avijit Das**  
Program Manager

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5. <b>DEPTH MICROMETER<sup>§</sup></b> L.C. :- 10 $\mu$ m	Upto 300 mm	8 $\mu$ m	Using Depth Micrometer Checker & Gauge Block Set by Comparison Method
6. <b>MICROMETER SETTING ROD<sup>§</sup></b>	Upto 175 mm	1.8 $\mu$ m	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
7. <b>DIAL GAUGE<sup>§</sup></b> (Plunger Type) L.C. :- 1 $\mu$ m L.C. :- 10 $\mu$ m	0 to 1 mm 0 to 25 mm	3.0 $\mu$ m 4.6 $\mu$ m	Using Electronic Dial Calibration Tester by Comparison Method
8. <b>DIAL GAUGE</b> (Lever Type) L.C. :- 1 $\mu$ m L.C. :- 10 $\mu$ m	0 to 0.14 mm 0 to 1.5 mm	3.0 $\mu$ m 4.6 $\mu$ m	Using Electronic Dial Calibration Tester by Comparison Method
9. <b>BORE GAUGE WITH DIAL<sup>§</sup></b> (For Transmission Accuracy)	(Transmission Error) 0 to 1.0 mm	7.2 $\mu$ m	Using Electronic Dial Calibration Tester Comparison Method
10. <b>PLAIN PLUG GAUGE<sup>§</sup></b>	3 mm to 231mm	5.2 $\mu$ m	Using Gauge Block Set & Electronic Probe with DRO by Comparison Method
11. <b>SNAP GAUGE<sup>§</sup></b>	Upto 100 mm	3.2 $\mu$ m	Using Gauge Block Set by Comparison Method
12. <b>FEELER GAUGE<sup>§</sup></b>	Upto 1mm	3.0 $\mu$ m	Using Digital Outside Micrometer by Comparison Method

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13. <b>PLAIN THREAD PLUG GAUGE<sup>s</sup></b> Major Diameter	M2 to M100	2.4 $\mu$ m	Using FCDM with Electronic Probe; Cylindrical Setting Master & Thread Measuring Wires by Comparison Method
Effective Diameter	M2 to M100	3.2 $\mu$ m	
14. <b>TAPER THREAD PLUG GAUGE<sup>s</sup></b> (For Effective Diameter)	M2 to M100	5.0 $\mu$ m	Using FCDM with Electronic Probe; Cylindrical Setting Master & Thread Measuring Wires by Comparison Method
<b>II. PRESSURE &amp; VACUUM</b>			
1. <b>PRESSURE PNEUMATIC<sup>s</sup></b> (Dial, Digital, Pressure Gauges, Pressure Transmitters)	0 to 25 bar	0.003 bar	Using process calibrator with pneumatic CPH 6000 Pump by Comparison Method as per DKD-R-6-1
2. <b>PRESSURE HYDRAULIC<sup>s</sup></b> (Dial, Digital, Pressure Gauges, Pressure Transmitters)	25 bar to 100 bar 100 bar to 600 bar	0.025 bar 0.13 bar	Using process calibrator CPH 6000 with Hydraulic Pump by Comparison Method as per DKD-R-6-1

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	<b>Quantity Measured / Instrument</b>	<b>Range/ Frequency</b>	<b>* Calibration Measurement Capability (±)</b>	<b>Remarks</b>
3.	<b>LOW PNEUMATIC\$ (Dial, Digital, Pressure Gauges, Pressure Transmitters)</b>	0 to 100 mbar	0.1 mbar	Using Low pressure controller CPC2000 by Comparison Method as per DKD-R-6-1
4.	<b>VACUUM\$ (Dial, Digital, Pressure Gauges, Pressure Transmitters)</b>	(-)0.9 bar to 0 bar	0.0006 bar	Using process calibrator CPH 6000 with vacuum Pump By comparison method as per DKD-R-6-1
5.	<b>PRESSURE PNEUMATIC* (Dial, Digital, Pressure Gauges, Pressure Transmitters)</b>	0 to 20 bar	0.007 bar	Using Digital pressure gauge DPI 104 with pneumatic Pump by Comparison Method as per DKD-R-6-1
6.	<b>PRESSURE HYDRAULIC* (Dial, Digital, Pressure Gauges, Pressure Transmitters)</b>	20 bar to 70 bar 70 bar to 350 bar 350 bar to 700 bar	0.04 bar 0.13 bar 0.31 bar	Using Digital Pressure gauge DPI 104 with Hydraulic Pump by Comparison Method as per DKD-R-6-1
7.	<b>LOW PNEUMATIC* (Dial, Digital, Pressure Gauges, Pressure Transmitters)</b>	0 to 70 mbar	0.03 mbar	Using Low pressure digital gauge Huber with low pressure pump by Comparison Method as per DKD-R-6-1

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8. VACUUM* (Dial, Digital, Pressure Gauges, Pressure Transmitters)	(-)0.8bar to 0 bar	0.007 bar	Using Digital pressure gauge DPI 104 with vacuum Pump by Comparison Method as per DKD-R-6-1
<b>III. ACCELERATION &amp; SPEED</b>			
1. DIGITAL TACHOMETER\$ (Contact Mode)	60 RPM to 1000 RPM 1000 RPM to 5000 RPM 5000 RPM to 9500 RPM	1.1 RPM 4.4 RPM 6.5 RPM	Using Digital Tachometer with Motorized Fixture as Source by Comparison Method
2. DIGITAL TACHOMETER\$ (Non-Contact Mode)	30 RPM to 100 RPM 100 RPM to 5000 RPM 5000 RPM to 10000 RPM 10000 RPM to 20000 RPM	0.1RPM 0.9 RPM 6.5 RPM 5.1 RPM	Using Digital Tachometer with Motorized Fixture as Source by Comparison Method
3. DIGITAL TACHOMETER* (Non-Contact Mode)	100 RPM to 1000 RPM 1000 RPM to 25000 RPM	1.8 RPM 15 RPM	Using Digital Tachometer by Comparison Method to Rotating Targets

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

\$Only in Permanent Laboratory

\*Only for Site Calibration

® 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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