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| Laboratory | Accurate Engineering Co. Pvt. Ltd, No. 70, 1st Main, 3rd Cross, 2nd Stage, Yeshwanthpura, Bangalore, Karnataka | | |
| Accreditation Standard | ISO/IEC 17025: 2005 | | |
| Discipline | Mechanical Calibration | Issue Date | 17.06.2015 |
| Certificate Number | C-0224 | Valid Until | 16.06.2017 |
| Last Amended on | - | Page | 1 of 7 |

| Quantity Measured/ Instrument | Range / Frequency | *Calibration Measurement Capability (\pm) | Remarks |
|--|---|--|---|
| I. DIMENSION | | | |
| 1. Gauge Blocks \$ | Upto 25 mm >25 mm to 50 mm >50 mm to 100 mm | 0.12 μ m 0.14 μ m 0.16 μ m | Using Gauge Block Calibration Tester & Grade 'K' Gauge Blocks |
| 2. Cylindrical Setting Masters / Master Cylinder / Mandrels \$ | Upto 100 mm >100 mm to 200 mm | 1.6 μ m 2.0 μ m | Using Electronic Comparator |
| 3. Measuring Pins\$ | Upto 20 mm | 1.3 μ m | Using Electronic Comparator |
| 4. Plain Ring Gauges / Setting Ring Gauges \$ | Upto 100 mm >100 mm to 150 mm >150 mm to 300 mm | 1.7 μ m 2.0 μ m 6.0 μ m | Using ULMM / Master Ring Using CMM |
| 5. Micrometer Setting Standard / Flush Pin Gauges / Width Gauges / Length Bars \$ | Upto 100 mm >100 mm to 250 mm >250 mm to 500 mm | 2.2 μ m 2.4 μ m 5.0 μ m | Using Electronic Comparator Using Lever type Indicator with Transfer stand & Length Bars |
| 6. Thread Measuring Prisms \$ | Upto 6 mm | 1.4 μ m | Using Electronic Comparator |
| 7. Riser Block \$ | Upto 300 mm | 2.7 μ m | Using Lever type Indicator & Length Bars |
| 8. Caliper Checker / Check Master / Depth Micro Checker \$ | Upto 300 mm Upto 600 mm | 6.0 μ m 8.0 μ m | Using CMM |

Bibin Philip
Convenor

Avijit Das
Program Manager

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|--|-------------------------------------|--|---|
| 9. Plain Plug Gauges ^{\$} | Upto 100 mm >100 mm to 200 mm | 1.6 μ m 2.1 μ m | Using Electronic Comparator & Grade '1' Gauge Blocks |
| 10. Plain Gap Gauges ^{\$} | 2 mm to 100 mm >100 mm to 200 mm | 1.3 μ m 1.8 μ m | Using Grade '1' Gauge Blocks |
| 11. Thread Plug Gauges / Wear check plug gauges ^{\$} | Upto 100 mm | 3.0 μ m | Using FCDM |
| Thread Plug Gauges / Wear Check Plug Gauges (Effective Dia only) ^{\$} | >100 to 125 mm | 2.0 μ m | Using ULMM |
| 12. Thread Ring Gauges / Wear Check Ring gauges (Effective Dia only) ^{\$} | Upto 100 mm >100 mm to 150 mm | 1.7 μ m 2.0 μ m | Using ULMM |
| 13. Taper Thread Plug Gauge (Major Dia, Minor Dia & Effective Dia) ^{\$} | Upto 100 mm | 3.0 μ m | Using FCDMM |
| 14. Calipers (Vernier / Dial Digital) ^{\$} L.C. : 0.01 mm ^Φ | Upto 600 mm | 15.0 μ m | Using Caliper Checker |

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| 15. Height Gauges Calipers (Vernier / Dial Digital) ^{\$} L.C. : 0.01 mm ^Φ | Upto 600 mm | 14.0 μ m | Using Step Gauge (Caliper Checker) |
| 16. Depth Gauges (Vernier / Dial Digital) ^{\$} L.C. : 0.01 mm ^Φ | Upto 300 mm | 13.0 μ m | Using Step Gauge (Depth Micro-Checker) |
| 17. External Micrometer (Analog / Dial/Digital) ^{\$} L.C. : 0.001 mm ^Φ | Upto 100 mm >100 mm to 250 mm >250 mm to 500 mm | 2.0 μ m 3.0 μ m 4.0 μ m | Using Grade '1' Gauge Blocks & Length Bars |
| 18. Internal Micrometer (Stick) ^{\$} L.C. : 0.001 mm ^Φ | Upto 400 mm | 3.0 μ m | Using Grade '1' Gauge Blocks With Accessory Set |
| 19. Depth Micrometer / Depth Dial Gauge ^{\$} L.C. : 0.001 mm ^Φ | Upto 300 mm | 5.0 μ m | Using Depth Micro-Checker |

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|---|-------------------|--|---|
| 20. Micrometer Head ^{\$} L.C. : 0.0001 mm ^Φ | Upto 25 mm | 1.6 μ m | Using Electronic Comparator |
| 21. Height Micrometer ^{\$} L.C. : 0.0005 mm ^Φ | Upto 300 mm | 3.3 μ m | Using Grade '1' Gauge Blocks & Length bars |
| 22. Floating Carriage Dia. Measuring M/c. ^{\$} L.C. : 0.0001 mm ^Φ | Upto 175 mm | 2.0 μ m | Using Cylindrical setting masters / Electronic Comparator / Mandrel |
| 23. Dial calibration Tester ^{\$} L.C. : 0.0001 mm ^Φ | 0 to 25 mm | 1.5 μ m | Using Electronic Micro Indicator |
| 24. Plunger Dial Gauge / Dial Comparator ^{\$} L.C. : 0.0001 mm ^Φ | Upto 25 mm | 1.5 μ m | Using Electronic Dial Calibration Tester |
| 25. Lever Dial Gauge ^{\$} L.C. : 0.0001 mm ^Φ | Up to 2.0 mm | 1.5 μ m | Using Electronic Dial Calibration Tester |

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|--|---|--|--|
| 26. Dial Snap Gauge / Dial Thickness Gauge \$ L.C. : 0.001 /0.002 mm Φ | Upto 200 mm | 2.0 μ m | Using Grade '1' Gauge Blocks |
| 27. Electronic Probe with DRO / Comparator With Stand \$ L.C. : 0.0001 mm Φ | Upto 300 mm | 0.8 μ m | Using Grade 'K' Gauge Blocks & Optical Flat |
| 28. Dial Bore Gauge / Bore Gauge (for transmission only) \$ L.C. : 0.0001 / mm Φ | Upto 2 | 1.5 μ m | Using Electronic Dial Calibration Tester |
| 29. Plain Taper Plug / Ring Gauge \$ | Major Dia Upto 200 mm Minor Dia Upto 200 mm Angle Upto 180 $^{\circ}$ | 6.0 μ m 6.0 μ m 7.0 sec of arc | Using CMM |
| 30. Radius Gauge \$ | Upto 25 mm | 6.0 μ m | Using Profile Projector |
| 31. Sine Bar/Sine Center \$ | Linear/Form Upto 300 mm Angle | 6.0 μ m 9.3 min of arc | Using Gauge Blocks & CMM |
| 32. Feeler Gauge Set | Upto 2.0 mm | 1.5 μ m | Using Electronic Comparator |
| 33. Bevel Protector / Combination Set \$ L.C. : 5 ' Φ | 0 to 360 $^{\circ}$ | 3 min of arc | Using CMM |

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| 34. Spirit Level \$ L.C. : 20 μ m/m | Upto 140 μ m/m | 10 μ m/m | Using Electronic Level |
| 35. Angle Plate (Angle/ Linear / Form) \$ | Upto 300 mm | 5.2 μ m 15.0 sec of arc | Using CMM |
| 36. Thread Pitch Gauge \$ | 0.3 to 6.0 Pitch 55 °, 60 ° Flank Angle | 6.0 μ m 8.0 min of arc | Using Profile Projector |
| 37. 'V' Block (Flatness, Perpendicularity, Parallelism, Symmetry & Angle) \$ Linear Angle | 300 mm x 200 mm x 200 mm | 6.0 μ m 7.0 sec of arc | Using CMM |
| 38. Master Foils / Thickness foils \$ | Upto 1.25 mm | 2.6 μ m | Using Digital Micrometer |
| 39. Slip Gauge Accessories Set \$ | Upto 100 mm | 1.6 μ m | Using Electronic Comparator |
| 40. Dial Caliper Gauge / Groove Dial Gauge \$ LC : 0.001 mm ^Φ | Upto 100 mm | 3.5 μ m | Using Grade '1' Gauge Blocks/ Slip Gauge accessories set |
| 41. Try Square / L Square / Engineers Square (Squareness, Parallelism) \$ | Up to 300 mm | 6.0 μ m | Using CMM |
| 42. Parallel Blocks \$ | Upto 300 mm | 6.0 μ m | Using CMM |

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| 43. Single Axis Measuring Machine / Horizontal Metro scope * L.C. : 0.0001 mm | Upto 200 mm | 1.5 µm | Using Grade 'K' Gauge Blocks |
| 44. Profile Projector * | Linear Upto 300 mm Magnification 5x, 10x, 20x,50x Angle Upto 360° | 3.0 µm 0.5 % 6.5 min of arc | Using Glass Scales, Glass Protractor & Slip Gauge |
| 45. Surface Plate * | Upto 3000 mm x 2000 mm | $1.5 \times \left(\sqrt{\frac{L+W}{125}} \right) \mu\text{m}$ L & W in mm Length L, width W, Base Length = 125 mm | Using Electronic Level |
| 46. 2 D Electronic Height Gauge * L.C. : 0.0001 mm ^Φ | Upto 600 mm | 4.0 µm | Using Check Master |
| 47. CMM * | 1000 mm x 1000 mm x 1000 mm | 2.38 µm + 2.29 µm/m x L Where L in meter | Using Check Master & Gauge Blocks |

* Measurement Capability is expressed as an uncertainty (±) 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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