



NABL

National Accreditation Board for Testing and Calibration Laboratories

(An Autonomous Body under Department of Science & Technology, Govt. of India)

CERTIFICATE OF ACCREDITATION

ACTION ENGINEERS

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

Vadsar Bridge (West End), Vadodara, Gujarat
in the discipline of

MECHANICAL CALIBRATION

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Certificate Number C-0777

Issue Date 05/12/2015



Valid Until 04/12/2017

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL

Avijit Das
Program Manager

Anil Relia
Director

Prof. S. K. Joshi
Chairman



NABL

SCOPE OF ACCREDITATION

Laboratory	Action Engineers, Vadsar Bridge (West End), Vadodara, Gujarat		
Accreditation Standard	ISO/IEC 17025:2005		
Discipline	Mechanical Calibration	Issue Date	05.12.2015
Certificate Number	C-0777	Valid Until	04.12.2017
Last Amended on	06.01.2016	Page	1 of 5

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability ($\pm$)	Remarks
I. DIMENSIONS			
1. CALIPERS ^S (Digital / Dial / Vernier) L.C.: 10 μ m	Up to 1000 mm	11.6 μ m	Using Caliper Checker and Gauge Block Set
2. DEPTH GAUGE ^S (Digital / Dial / Vernier) L.C.: 10 μ m	Up to 450 mm	15 μ m	Using Caliper Checker and Gauge Block Set
3. HEIGHT GAUGE ^S (Digital / Dial / Vernier) L.C.: 10 μ m	Up to 1000 mm	11.1 μ m	Using Caliper Checker and Gauge Block Set
4. EXTERNAL MICROMETER ^S L.C.: 1 μ m	Up to 25 mm > 25 mm to 100 mm > 100 mm to 1000 mm	0.8 μ m 2.6 μ m 9.7 μ m	Using Micrometer Checker and Gauge Block Set
5. INTERNAL MICROMETER ^S (2 Points) L.C.: 10 μ m	Up to 500 mm > 500 mm to 1000 mm	7.8 μ m 11.0 μ m	Using Gauge Block Set and Accessories
6. INSIDE DIAL CALIPER ^S L.C.: 10 μ m	Up to 75 mm	7.3 μ m	Using Gauge Block Set and Accessories
7. DEPTH MICROMETER ^S L.C.: 1 μ m	Up to 100 mm > 100 mm to 300 mm	7.5 μ m 9.5 μ m	Using Gauge Block Set and Accessories
8. MICROMETER HEAD ^S L.C.: 1 μ m	Up to 25 mm	1.2 μ m	Using Gauge Block Set and Comparator Stand

Naveen Jangra
Convenor

Avijit Das
Program Manager

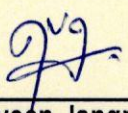


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9. DIAL / DIGITAL INDICATOR ^S (Plunger Type) L.C.: 1 μ m L.C.: 10 μ m	Up to 25 mm Up to 50 mm	1.2 μ m 10 μ m	Using Dial Gauge Tester, Gauge Block Set and Comparator Stand
10. DIGITAL INDICATOR WITH PROBE ^S L.C.: 0.1 μ m L.C.: 1 μ m	Up to 200 μ m Up to 2000 μ m	1.3 μ m 1.4 μ m	Using Gauge Block Set and Comparator Stand
11. LEVER TYPE DIAL GAUGE ^S L.C.: 1 μ m L.C.: 10 μ m	Up to 0.2 mm Up to 0.8 mm	1.1 μ m 10.0 μ m	Using Dial Gauge Tester, Gauge Block Set and Comparator Stand
12. BORE GAUGE (2-Point) ^S (Transmission Accuracy Only)	Up to 2 mm	8.3 μ m	Using Dial Gauge Tester
13. PISTOL CALIPER / OUTSIDE DIAL CALIPER ^S L.C.: 10 μ m	Up to 50 mm	9.1 μ m	Using Gauge Block Set and Accessories
14. DIGITAL / DIAL THICKNESS GAUGE ^S L.C.: 1 μ m L.C.: 10 μ m	Up to 12 mm Up to 25 mm	1.2 μ m 7.0 μ m	Using Gauge Block Set
15. GLASS SCALE ^S	Up to 1 mm Up to 10 mm	7.3 μ m 7.4 μ m	Using Microscope with Digital Gauge and Dial Gauge
16. STEEL SCALE ^S L.C.: 0.5 mm	Up to 1000 mm	197 μ m	Using Traveling Microscope with Dial Gauge
17. MEASURING TAPE / PIE TAPE ^S	100 m 10 m	$197 \sqrt{\frac{L}{1000}} \mu$ m L in mm	Using Traveling Microscope with Dial Gauge


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18. BEVEL PROTRACTOR ^s L.C.: 5 Minutes	0° - 90° - 0°	3'	Using Angle Gauge Block Set
19. COMBINATION SET / ANGLE PROTRACTOR ^s L.C.: 1 Degree	0° - 180°	35'	Using Angle Gauge Block Set
20. COATING THICKNESS GAUGE ^s L.C.: 0.1 μ m L.C.: 1 μ m L.C.: 10 μ m	Up to 100 μ m 100 μ m to 1500 μ m 1 mm to 12 mm	2.0 μ m 3.2 μ m 13.3 μ m	Using Standard Foils
21. PLAIN PLUG GAUGE ^s	0 to 150mm	6.3 μ m	Using Digital Indicator, Gauge Block Set and Comparator Stand
22. PLAIN SNAPGAUGE ^s	3 mm to 100 mm	3.6 μ m	Using Gauge Block Set
23. MICROMETER SETTING RODS / STANDARD THICKNESS BLOCK ^s	Up to 100 mm > 100 mm to 300 mm > 300 mm to 600 mm > 600 mm to 1000 mm	3.6 μ m 7.0 μ m 8.5 μ m 11.5 μ m	Using Digital Indicator, Gauge Block Set and Comparator Stand
24. DIAL GAUGE CALIBRATOR ^s L.C.: 1 μ m	Up to 25 mm	2.1 μ m	Using Digital Indicator and Gauge Block Set
25. FEELER GAUGE ^s	0.03 mm to 1 mm	2.0 μ m	Using Digital Outside Micrometer
26. MASTER FOIL OF COATING THICKNESS GAUGE ^s	Up to 12 mm	3.0 μ m	Using Digital Indicator and Digital Outside Micrometer
27. PIN GAUGE ^s	1 mm to 10 mm	2.0 μ m	Using Digital Outside Micrometer
28. TEST SIEVE ^s	32 μ m to 20 mm	20 μ m	Using Traveling Microscope with Dial Gauge and Digital Caliper


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29. SWG WIRE GAUGE^S			
	Up to 7.6 mm	22 µm	Using Traveling Microscope with Dial Gauge and Gauge Block Set
30. PROFILE PROJECTOR / VISION MEASURING M/C[*]			
Linear X, Y Axis	Up to 50	3.6 µm	Using Glass Scale, Gauge Block, Angle Gauge and Digital Caliper
Angular	0 ° - 180 °	1 ′	
Magnification	Up to 100 X	1 %	
31. TAPER BORE GAUGE^S (SCALE TYPE)			
L.C.: 0.1 mm	Up to 25 mm	3.0 µm	Using Digital Outside Micrometer
II. ACCELERATION AND SPEED			
1. RPM METER/TACHOMETER / STROBOSCOPE[#]			
Contact Type	1 to 1000 RPM 300 to 5000 RPM	3.0 RPM 18 RPM	Using Time Interval Meter, Frequency Meter and Stroboscope
Non Contact Type	5 to 1000 RPM 300 to 90000 RPM	3.0 RPM 18 RPM	
III. ACCOUSTICS			
1. SOUND LEVEL METER[#]			
	1 kHz 94 dB & 114 dB	0.55 dB	Using Sound Level Calibrator
IV. PRESSURE AND VACUUM			
1. DIAL / DIGIT PRESSURE GAUGE / TRANSMITTER / SWITCH^S			
	0 to 100 mbar 0 to 340 mbar	2.35 mbar 2.35 mbar	Using pneumatic pump with Digital Pressure Gauge


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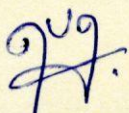
Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability ($\pm$)	Remarks
2. DIAL / DIGIT PRESSURE GAUGE / TRANSMITTER / SWITCH #	0 to 1 bar 0 to 7 bar	0.004 bar 0.005 bar	Using pneumatic pump with Digital Pressure Gauge
3. DIAL / DIGIT PRESSURE GAUGE / TRANSMITTER / SWITCH #	0 to 1 bar 0 to 7 bar 0 to 35 bar 0 to 350 bar 0 to 700 bar 0 to 1000 bar	0.004 bar 0.005 bar 0.028 bar 0.21 bar 0.42 bar 4.59 bar	Using hydraulic comparator pump with Digital Pressure Gauge
4. DIAL / DIGIT VACUUM GAUGE / TRANSMITTER / SWITCH #	(-) 0.9 bar to 0	0.005 bar	Using vacuum pump with Digital Vacuum Gauge
V. TORQUE			
1. TORQUE WRENCH § (Type II-Class A & B)	5 Nm to 20 Nm 20 Nm to 200 Nm 400 Nm to 2000 Nm	1.91 % 1.45 % 1.2 %	Using Torque Sensor with Indicator

* 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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