Laboratory	**Adarsha Calibration Services, 204/4, Ullal, Sir.M. Vishveswaraiya Layout, Bangalore, Karnataka**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Mechanical Calibration**	**Issue Date**	**29.09.2014**
Certificate Number	**C-1136**	**Valid Until**	**28.09.2016**
Last Amended on	**18.01.2016**	**Page**	**1 of 5**

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
I. DIMENSION			
1. CALIPERS $ (VERNIER/ DIAL/DIGITAL) L.C.: 0.01mm	Upto 300 mm >300 mm to 600 mm >600 mm to 1000 mm	8.8 µm 13.8 µm 15.0 µm	Using Caliper Checker, Gauge Blocks & Accessories by Comparison Method
2. DEPTH GAUGE $ (VERNIER/ DIAL/DIGITAL) L.C:.0.01mm	Upto 300 mm	13.2 µm	Using Gauge Blocks/ Length Bars by Comparison Method
3. PISTOL CALIPER/OD CALIPER/ LEG CALIPER $ L.C:.0.01mm	Upto 100 mm	6.8 µm	Using Caliper Checker, Gauge Blocks & Accessories by Comparison Method
4. INTERNAL/ STICK MICROMETER $ (Analogue/Digital) L.C:.0.01mm	10 to 300 mm	6.0 µm	Using Gauge Blocks & Accessories by Comparison Method
5. EXTERNAL MICROMETER/ BLADE/FLANGE/ POINT MICROMETER $ (Analogue/Digital) L.C:.0.001mm	Upto 150 mm >150 mm to 300 mm >300 mm to 600 mm	2.0 µm 4.7 µm 7.5 µm	Using Gauge Blocks / Length Bars by Comparison Method

	Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
6.	**DEPTH MICROMETER $ (Analogue/Digital) L.C:.0.01mm**	Upto 100 mm	6.8 µm	Using Gauge Blocks/Lengths Bars By Comparison Method
7.	**DIAL GAUGE $ Plunger Type L.C:.0.01mm**	Upto 50 mm	2.8 µm	Using Gauge Blocks By Comparison Method
8.	**HEIGHT GAUGE $ (Vernier/Dial/ Digital) L.C:.0.01mm**	Upto 300 mm >300 mm to 600 mm >600 mm to 1000 mm	9.6 µm 9.9 µm 10.9 µm	Using Gauge Blocks /Caliper Checker By Comparison Method
9.	**FEELER GAUGE $**	Upto 1.0 mm	3.0 µm	Using Digital Micrometer By Comparison Method
10.	**DIAL THICKNESS GAUGE $ L.C:.0.01 mm**	Upto 50 mm	6.3 µm	Using Gauge Block By Comparison Method
11.	**SNAP GAUGE $**	2 to 150 mm	2.6 µm	Using Gauge Blocks By Comparison Method
12.	**TACHOMETER RPM METER/ CENTRIFUGE #**	>50 rpm to 6000 rpm >6000 rpm to 90000 rpm	0.27 % to 0.08 % of Rdg 0.08 % to 0.035% of Rdg	Using Reference Tachometer By Comparison Method

Neeraj Verma
Convenor

Avijit Das
Program Manager

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
II. MASS			
1. Weights $ (Conventional)	1mg	0.018 mg	Using E2 Class Standard Weights and Mass Comparators Readability: 0.01 mg up to 82g and 0.1 mg 220 g Calibration of weights of Class E2 accuracy and coarser as per OIML R-111 and NABL-122-02
	2 mg	0.018 mg	
	5 mg	0.018 mg	
	10 mg	0.018 mg	
	20 mg	0.018 mg	
	50 mg	0.018 mg	
	100 mg	0.028 mg	
	200 mg	0.028 mg	
	500 mg	0.028 mg	
	1g	0.028 mg	
	2 g	0.028 mg	
	5 g	0.028 mg	
	10 g	0.028 mg	
	20 g	0.032 mg	
	50 g	0.036 mg	
	100 g	0.096 mg	
	200 g	0.160 mg	
2. Electronic Weighing Balance ♣ (Readability 0.01 mg to 1 mg)	0 to 80 g	0.16 mg	Using E2 & F2 Class Standard Weights Calibration Of electronic weighing balance of class II and coarser as per OIML R 76-1 and NABL-122-03
	> 80 g to 200 g	0.17 mg	
Electronic Weighing Balance ♣ (Readability 0.001 g to 10 g)	>1 kg to 3 kg	1.33 g	
	> 3 kg to 20 kg	1.34 g	

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
III. VOLUME			
1. Micropipettes [$]	10 µl to 100 µl >100 µl to 1000 µl >1ml to 5 ml	0.7 µl 0.7 µl 0.03 ml	Using E2 Class weights and precision Weighing Balance with Resolution 0.01 mg up to 80 g and 0.1 mg above Using E2 Class Standard with Digital Precision Balance and distilled water of known density. Procedure based on ISO-8655-6 (micro pipette).
2. Glass ware [$]			
Burette	1 ml to 100 ml	0.004 ml	Using E2 Class Standard weights, with Digital Precision Balance and distilled Water of known Density. Procedure based on ISO 4787
Pipette	1 ml to 25 ml	0.001 ml	
Measuring Cylinder	1 ml to 100 ml	0.58 ml	
Volumetric Flask	1 ml to 150 ml	0.59 ml	
IV. ACCOUSTICS			
1. Sound Level Meter [$]	94 dB 114 dB	0.96 dB 1.12 dB	Using Sound Level Calibrator By the method of comparison using the procedure OMIL-R58 Annexure B & C

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
V. PRESSURE AND VACUUM			
1. Hydraulic Pressure [#] Analog/Digital Pressure Gauges & Pressure Transmitter	0 to 700 bar	0.14 bar	Using Digital Pressure Gauge by Comparison method based on DKD-R-6-1 and NABL 122-13.
2. Pneumatic Gauge [#] Positive Pressure – Analog/Digital Pressure Gauges, Pressure Transmitters	0 to 40 bar	0.01 bar	Using Digital Pressure Gauge by Comparison method based on DKD-R-6-1 and NABL 122-13.
3. Vacuum [#] Negative Pressure - (Analogue/ Digital) Vacuum Gauges & Pressure Transmitter	– 0.8 bar to 0 bar	0.003 bar	Using Digital Pressure Gauge by Comparison method based on DKD-R-6-1 and NABL 122-13.
4. Differential Pressure Gauge [#]	-18.4 mmHg to 18.4 mmHg	0.014mm Hg	Using Digital Manometer by Comparison method based on NABL 122-13.

*** Measurement Capability is expressed as an uncertainty (±) 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.

Neeraj Verma
Convenor

Avijit Das
Program Manager