



CALIBRATION LAB

INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

About Us:



- ICAT Calibration Laboratory is accredited as per ISO/IEC 17025:2017 through NABL for providing Calibration services.
- The Laboratory provide calibration services in various disciplines such as Electro-Technical, Pressure (Hydraulic & Pneumatic), Mass (Weights & Weighing Balances), Thermal (Temperature & Humidity), Speed, Acceleration, Acoustics & Force Proving Instruments.
- The Laboratory is having unique and state of the art facilities for the calibration of below mentioned instruments:
 - Ultra-micro Balances and E1 class weights (at Lab).
 - Accelerometers
 - Microphones
- The Laboratory is environmentally controlled, ensuring the correct atmosphere for the precise measurements.
- The Laboratory is having highly accurate world class instruments & measurement standards that are traceable to NPL, India & NMI's.
- Reference Standards are calibrated, maintained & operated as per the guidelines mentioned in ISO/IEC 17025.

Services Available :

• **Electro-Technical Metrology**

(Master: Multifunction Calibrator, 6.5 Digital Multimeter & Stop-Watch Calibrator)



• **Calibration Parameters:**

- | | |
|----------------------|------------------------------------|
| 1. DC Voltage: | 1 mV - 1000 V |
| 2. DC Current: | 10 μ A - 20 A |
| 3. Capacitance: | 1 nF - 100 μ F |
| 4. Frequency: | 1 Hz - 1 MHz |
| 5. Temp. Simulation: | -200°C - 1700°C |
| 6. Resistance: | 1 Ω - 400 M Ω |
| 7. AC Current: | 50 μ A - 20 A (@ 50Hz to 1KHz) |
| 8. AC Voltage: | 1 mV - 1000V (@ 50Hz to 10 KHz) |
| 9. Time: | 10 sec to 80000 sec |

• **Scope:**

- Voltmeters
- Ammeters
- Multimeters
- Insulation testers
- Temperature Controller/Indicator without Sensor (Thermocouple and Resistance Thermometer Detector)
- Meggers
- Multifunction calibrators
- DAS/DAQs
- Dataloggers
- Timers
- StopWatches
- Hour Meters
- Power Supply (AC/DC)

• **Mass (Weights & Weighing Balances) Metrology**

(Master: E1, E2, F1, F2 & M1 Class Weights)

• **Calibration range:**

1. For Weights - 1mg to 20 kg
2. For Weighing Balances - 0.1 μ g to 150 kg

• **Scope:**

- Ultra-micro Balances
- Weights
- Weighing Balances (upto 150Kg)
- Weighing Pads with Display (upto 150Kg)



• Thermal Metrology

(Master: Standard Platinum Resistance Thermometer, S-Type Thermocouple, N-Type Thermocouple and Humidity & Temperature Sensor with Indicator)



• Temp. Calibration range:

1. -40°C to 1000°C

• Humidity Calibration Range:

1. 10% RH to 95% RH @25°C
2. 10°C to 50°C @50%RH

• Chamber Calibration (Mapping) Range:

1. 10% RH to 95% RH @25°C
2. 10°C to 50°C @50%RH
3. -65°C to 1000°C

• Scope:

- Resistance Thermometer Detectors (with/without indicator)
- Thermocouples (with/without indicator)
- Chambers (Environmental, Humidity, Hot & Cold Shock Chambers, Climatic Control Chambers, etc.)
- Hygrometers
- Temperature Sensing Devices (Glass Thermometers, etc.)

• Pressure (Hydraulic & Pneumatic) Metrology

(Master: Hydraulic Dead weight Tester & Dig. Pressure Calibrator)

• Calibration range:

1. Pneumatic: -0.94 bar(g) to 25 bar(g)
2. Hydraulic: 0 to 1000 bar(g)
3. Absolute: 0.1 to 2.5 bar(abs)

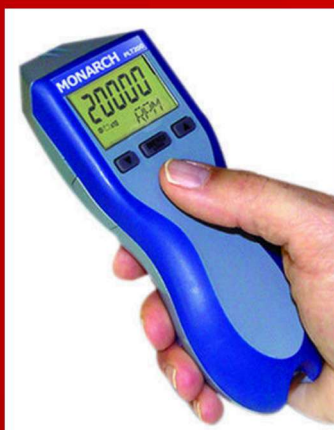
• Scope:

- Pressure Gauge(Pneumatic/Hydraulic)
- Vacuum Gauge
- Pressure Transmitters, Transducers (with & without display)
- Pressure Relief Valves
- Pressure Controllers
- Pressure Sensors
- Barometers(Digital/Analog)



• Speed Metrology

(Master: Tachometer Calibrator & Digital Tachometer)



• Calibration range:

1. Non-Contact Mode : 10 RPM to 99000 RPM
2. Contact Mode: 10 RPM to 9980 RPM

• Scope:

- Indicator of RPM Measurement
- Tachometer Calibrator
- RPM Source
- Centrifuge, Washing & Drying Machine
- Tachometer
- Stroboscope
- Vibrating Machine

• Acceleration Metrology

(Master: Precision Reference Piezoelectric & Charge type Accelerometers)



• Calibration range:

1. Accelerometers: 0.5 Hz to 10 kHz (upto 60g)
2. Vibration Shakers/Exciters: 0.5 Hz to 10 kHz (upto 60g)
3. Vibration Meters:
For Acceleration: 0.5 Hz to 10 kHz (upto 60g)
For Velocity: upto 400mm/s
For Displacement: upto 50mm

• Scope:

- Accelerometers
- Vibration Meters
- Vibration Calibrators
- Signal Conditioners



• Acoustics Metrology

(Master: Pistophone, Acoustic Pressure Chamber alongwith Reference Microphone)

• Calibration range:

1. Acoustics: 31.5 Hz to 16 kHz
(from 64 dB to 124 dB)

• Scope:

- Sound Level Meters
- Microphones
- Sound/Acoustic Calibrators
- Pistonphones



• Force Proving Instruments Metrology (Upcoming)

(Master: Loadcell & Proving Ring)

• Calibration (Compression & Tension Modes) range:

1. Loadcell Calibration: 100N to 50kN
2. Force Machine Calibration: 5N to 1000kN

• Scope:

- Loadcell with/without Indicator
- Universal Testing Machines
- Tensile Testing Machines
- Compression Testing Machines
- Force Sensors
- Proving Rings



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