

TESTING AND CALIBRATION

CONCEPT ON CALIBRATION

Calibration is a comparison between measurement- one of known magnitude or correctness made on set with a device and another measurement made within similar a way as possible as with second device.

Calibration is the documented comparison of the measurement device to be calibrated against a traceable reference device. The Automation, Systems and Instrumentation Dictionary, the word calibration is defined as “a test during which known values of measurand are applied to the transducer and corresponding output readings are recorded under specified conditions.” The definition includes the capability to adjust the instrument to zero and to set the desired span.

An interpretation of the definition would say that a calibration is a comparison of measuring equipment against a standard instrument of higher accuracy to detect, correlate, adjust, rectify and document the accuracy of the instrument being compared

WHY IS CALIBRATION NEEDED?

The goal of calibration is to minimize any measurement uncertainty by ensuring the accuracy of test equipment. Calibration quantifies and controls errors or uncertainties within measurement processes to an acceptable level.

Calibration defines the accuracy and quality of measurements recorded using a piece of equipment. Over time there is a tendency for results and accuracy to ‘drift’ when using particular technologies or measuring particular parameters such as temperature and humidity. To be confident in the results being measured, there is an ongoing need to maintain the calibration of equipment throughout its lifetime for reliable, accurate and repeatable measurements.

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CONCEPT ON TESTING:

1. A procedure for critical evaluation; a means of determining the presence, quality, or truth of something; a trial: **a test of one's eyesight; subjecting a hypothesis to a test; a test of an athlete's endurance.**
2. A series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability.
3. A basis for evaluation or judgment: **"A test of democratic government is how Congress and the president work together" (Haynes Johnson)**
4. Chemistry A physical or chemical change by which a substance may be detected or its properties ascertained.

WHAT IS ACCREDITATION?

Accreditation is the process in which [certification](#) of competency, authority, or credibility is presented.

Organizations that issue [credentials](#) or certify third parties against official standards are themselves formally accredited by accreditation bodies (such as [UKAS](#) or [IAS](#)); hence they are sometimes known as "accredited certification bodies".^[1] The accreditation process ensures that their certification practices are acceptable, typically meaning that they are competent to test and certify third parties, behave ethically and employ suitable [quality assurance](#).

TICI is Certified on Mechanical Calibration by Bangladesh Accreditation Board (BAB)

TESTING AND CALIBRATION SCOPES IN TICI

- Measuring Instruments (Pneumatic , Electronic and Hydraulic)
- Dimension and Angle Measuring Instruments
- Controller
- Laboratories Equipments
- Mass Calibration
- Mechanical Volume

TESTING AND CALIBRATION LABORATORIES OF TICI

Industrial Instrument Testing & Calibration Lab (IITCL):



Industrial Instrumentation & Calibration Lab provide the calibration facilities for different industrial measuring, Sensing controlling, Recording Instrument etc. Specific Instruments are:

- Pressure Gauge
- Temperature Gauge
- Thermometer
- Transmitter (Pressure, Temperature, Level etc.)
- Controller

- Tachometer
- Resistance
- SMART Transmitter
- Sound Level meter
- Thermocouple, RTD

Testing and Calibration Lab (TCL):



Testing and Calibration Lab (TCL) has different Calibration facilities:

1. Glass ware (Scope under Accreditation)
2. Gas Detector (Traceable)
3. Mass (Traceable)
4. Temperature (Traceable)
5. Laboratory Instrument (Conductivity meter, P^H meter etc.)
6. Barometer (Traceable)
7. Galley Sampler
8. Melt flow Index Tester

Electrical Testing and Calibration Lab (ETCL):



SCOPE OF CALIBRATION IN TICL:

1. Voltmeter
2. Ammeter
3. Clamp meter
4. Megger
5. Earth Tester
6. Thermal Imager
7. Infrared Thermometer
8. Tachometer
9. CT, PT
10. Leakage Clamp meter
11. Lux meter
12. Phase Sequence meter
13. Sound Level meter