



CALIBRATION TECHNIQUE ON CALIPER AND EXTERNAL MICROMETER (THEORITICAL & PRACTICAL)

Calibration is the process of ensuring the integrity accuracy of measuring instruments that is the accuracy of a measuring instrument compares with an appropriately calibrated laboratory reference standard. The process of calibration not just ensures the traceability of measurement results to national standards but also the measurements of uncertainties have to identify for the measurements are made.

Digital caliper and external micrometer are one-dimensional measuring device and commonly used in the industrial. The calibration characteristics for these small tools are the linear traveling, flatness and parallelism of the measuring faces. The main factors for making quality of measurement results by using these instruments is shall comply with Abbe's law. When we rely on results of measurement, these factors must be established before making any measurement.

LEARNING OBJECTIVE

After seriously committed to this course, the trainee should be able to do the following:

- Understand the principle concepts on measurement and calibration.
- Know the type of measurement errors and precaution about these errors.
- Handle measuring devices in appropriate way.
- Confidence handling calibration of Caliper & External Micrometer.
- Estimate measurement uncertainties appropriately by using Microsoft Excel.
- Monitor accuracy of instruments through calibration and maintenance program.
- Interpret contain of the measurement results and calibration certificates.
- Produce calibration certificate follow the metrological requirements.
- Justify calibration principle and requirements for instruments.
- Be confident during the quality auditing.

TARGETED INDUSTRIES

Calibration Laboratories, Institutions and the industries involve in calibration are part of their activity.

NB: Client must have Master Equipment for Calibration

TARGET GROUP

The Calibration Laboratories, Institutions and the industries involve in calibration are part of their activity. It can serve as a refresher for experienced technicians; or it can be used in orientation for new hires.

*Participants must have basic statistics knowledge, comfortable using a scientific calculator, simple algebra formulas and basic knowledge of MS Excel.

METHODOLOGY&LANGUAGE USE

Training slides, Practical Calibration, Review Questions, Exercises, Case Study and Q&A. Test before & after Training.

Training Manual – English

Course deliver language – Can be mix of English, Bahasa Malaysia and Chinese

COURSE OUTLINE

- Dimensional Metrology.
- Calibration and Accreditation Laboratory
- The Application of Basic Statistical and Probability in Metrology
- Metrological Requirements
- Introduction to Dimensional Tools
- Standard Calibration Methods
- Standard Work Instruction for Caliper
- Standard Work Instruction for External Micrometer
- Calibration Work Example by Using Microsoft Excel