Jayasree Reva Phoenix Metrology Pvt. Ltd.

Calibration | Inspection | Testing | Training | Services

ISO 9001:2015 Certified | ISO/IEC 17025:2017 Accredited

Force Metrology | Training Brochure

INTRODUCTION

Force calibration is the process of verifying and adjusting the accuracy of a force measurement device, such as a load cell or force gauge, to ensure that it is measuring force values within the specified tolerance range. Force measurement is an important aspect of many industrial applications, including materials testing, quality control, and product development.

COURSE FEATURES

Training course covers the following contents:

- Practical & Theoretical Training of Force Calibration
- Specific Criteria & Guidelines Force Calibration
- Estimation and Expression of Uncertainty in Measurement as per NABL 141
- Calibration and Measurement Capability (CMC) and Measurement Uncertainty in Calibration as per NABL 143
- Participation in Proficiency Testing Activities as per NABL 163
- Guidelines for Interlaboratory Comparison as per NABL 164

Universal Testing Machine

Compression Testing Machine

TRAINING MATERIAL

Material in soft for Force metrology as per ISO/IEC 17025: 2017, NABL oriented best-in-class training material traceable to National and International Standard requirements.

PRINCIPLE | THEORY

For force measurement, the process of calibration is the comparison of applied forces indicated by a measurement system under test to a calibration standard. The traceability of the standard used defines the resulting range and accuracy of the system being tested.

CALIBRATION RANGE

- Universal | Compression | Tensile Testing Machine - 0 to 1000 kN
- Displacement in Material Testing Machine - 0 to 1000 mm
- Verification of Speed in Material Testing Machine - 1.5 mm/min to 1000 mm/min
- Push & Pull Gauge | Force Gauge - 0 to 2000 N
- Durometer | Rubber Hardness - 0 to 100 Shore A, B, C, D, DO, E, O

EXPECTED PARTICIPANTS

- Laboratory Managers
- Calibration and Testing Engineers
- Laboratory Engineers
- Quality Managers
- Metrology Professionals
- NABL Lab Engineers

OBJECTIVES OF FORCE WORKSHOP

- Basic knowledge of calibration such as requirements of calibration, why do we need calibration, equipment selection, types of equipments, metrological traceability, selection of calibration agency etc.
- Understand requirement of ISO/IEC 17025:2017 requirements for measurement uncertainty.
- Understand theory of uncertainty of measurement, selection of uncertainty measurement factors, and calculation of measurement uncertainty.
- Understand the relevance of instrument measurement, including the use of instrument.
- Understand technical requirements and calibration method for relevant instruments.
- Preparation of calibration certificates and work sheet.

COURSE CONTENT

Course content covers the following topics:

- Comprehensive Trainer's Guide
- Power Point Presentation: Force Metrology
- Introduction to Measurements, Fundamental & Derived Units
- Standards Organizations and Document Standards
- Calibration Procedures | Methods | Processes
- Practical example from the trainer selecting the best solution
- Documentation Training as per ISO/IEC 17025: 2017
- Measurement Uncertainty
- Questions & Answers
- Practical examples from your business (In-house courses only)
- Summary & Review

WORKSHOP METHODOLOGY

TRAINING SESSION

Theoretical training on the basics of the subject.

- Force Laboratory

WORKSHOP & TEAM EXERCISES

Case studies from relevant industry samples taken up in line with the guidelines and formats.

- Force Laboratory

GRADED EXERCISE

Graded exercises to evaluate individual participant's progress during the course.

- Force Laboratory

FINAL EXAMS

Business as usual, we have a final examination to evaluate and certify the participants.

CONTINUING SUPPORT

We provide continuing support to new projects and provide project assistance based on client requirements.

CERTIFICATION

- Certificate of course completion to successful participants.
- Attendance for the entire duration of the course is compulsory.

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CC-2428

Dimensional | Pressure | Torque | Force | Hardness | Impact | Mass | Volume | Electro-Technical | Thermal | Acoustics | Acceleration & Speed | Fluid Flow | Optical | UTM | TTM | Tachometer | Anemometer | Durometer | Lux Meter | Push Pull Gauge | Rockwell | Brinell | Vickers | Micro Vickers | Mechanical Testing | Impact Testing : Mechanical Properties of Metals and Non-Metals

JAYASREE REVA PHOENIX 10 YEARS CALIBRATION & TESTING SERVICES

CONTACT US

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