Basic dimensional metrology

Build fundamental skills in linear and angular measurements

Highlights

- Complete with hardware, courseware, and storage
- Realistic exercises and projects for meaningful learning
- Parts designed to offer varied measurement challenges
- Choice between value or brand-name measuring instruments
- Learning enhanced with Augmented Reality (AR)

Accurate measurement of product dimensions is critical in the industry to allow quality control at various stages of the manufacturing process. It helps ensure products strictly comply with design specifications and standards.

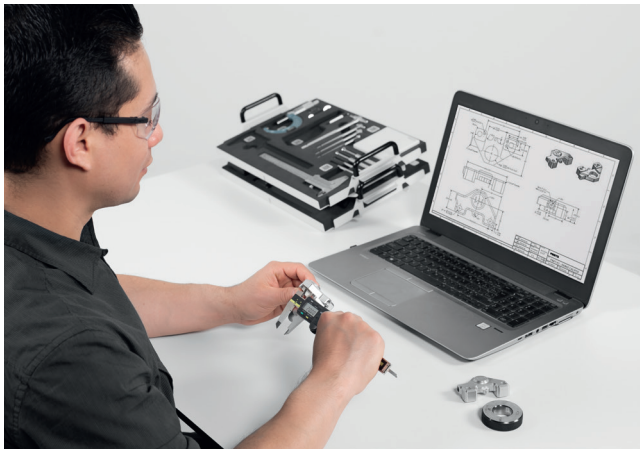
Essential skills for several trades

Proper selection and adequate handling of common, basic measuring instruments such as tape measures, rules, protractors, calipers, micrometers and various gages can be challenging for beginners in dimensional metrology. This is even more the case when various types of reading scales and systems of units must be understood.

Developing skills in interpreting technical drawings and making measurements is particularly important for machinists, CNC machine operators, millwrights, and workers involved in quality assurance activities.

The basic dimensional metrology equipment set offer a structured, systematic introduction to concepts, instruments, and techniques related to dimensional metrology.

Guided exercises build basic know-how and confidence; realistic projects develop decision-making skills.



Realistic experimentation

Through **hands-on activities**, the basic dimensional metrology training package enables instructors to efficiently convey the fundamental knowledge and know-how related to linear and angular measurements.

Comprehensive courseware offers a **large range of exercises and projects** arranged in a sequence of increasing complexity. This approach allows students to reinforce and expand their skills in a fluid way and facilitates practical application in the workplace.

Additional training packages coming soon:

- Advanced metrology, including Geometric Dimensioning and Tolerancing (GD&T)
- Statistical Process Control (SPC)

Build expertise with the right equipment

The Basic dimensional metrology training package includes **semi-precision and precision measuring instruments** commonly used in the industry for basic metrology purposes.

The value of the training package is based on the parts used for measurement activities. These **parts – from simple to intricate ones – represent real-life consumer and industrial components** and are carefully designed to challenge students' metrology skills in a variety of realistic scenarios. They allow the tools to be used to their fullest extent while providing multiple measurement opportunities. Parts are manufactured to ensure repeatability from one equipment set to another.

Also included are a **set of master rings and a gauge block** that allow students to self-assess their expertise and build confidence. They also develop their ability to perform routine field checks to detect conditions that may impair the accuracy and performance of instruments, a key aspect of metrology.

Every component has a dedicated **storage** location in a protective foam block, allowing for quick inventory and tidy workspace. Foam blocks are placed in stackable trays with handles that can be stored in optional Systainers.

For more information:
Contact the Festo Didactic nearest you about the new equipment set "Basic dimensional metrology".

Learning aims

- Explain metrology concepts (measurement, errors, precision, accuracy...) and SI and US unit systems
- Use and maintain precision and semi-precision measuring instruments
- Perform field check tasks
- Take and read measurements
- Read technical drawings
- Develop relevant transversal skills