Equipment Set TP 47222: Geometric Dimensioning and Tolerancing (GD&T - Brand)

8130869 (47222-00)

LabVolt Series

Datasheet

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Festo Didactic
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Table of Contents

General Description

Cross-borders skills for several trades

Production workers, engineers and anyone involved in design or manufacturing need a common language to efficiently communicate the intended function of parts. The geometric dimensioning and tolerancing equipment and courseware is centered around the comprehension of GD&T and the validation of work pieces to ensure they are within specifications.

Because manufacturing is globalized, the training package covers the subtle differences between the two different versions of standards that exist: one mainly used in North America (ASME) often referred to as GD&T, and one mainly used in the rest of the world (ISO) often referred to as GPS, which stands for Geometrical Product Specifications.

Develop know-how applicable to the job market

Through hands-on activities, the Geometric Dimensioning and Tolerancing (GD&T) training package enables instructors to efficiently convey the required knowledge and skills related to GD&T. 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 improves transferability to the workplace. Guided exercises build basic know-how and confidence; realistic projects develop decision-making skills.

Build expertise with the right equipment

This training package includes industrial-grade measuring instruments, hardware and a set of parts that represent real-life consumer and industrial components carefully designed to challenge students' GD&T 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.

Note

Whether you choose the Standard version which includes brand-name measuring instruments such as Mitutoyo and Starrett or the Value version with generic versions, the learning outcomes and student manuals and instructor guides remain the same.

Enhanced learning experience through Augmented Reality

Students use the free Festo Didactic AR app to visualize the features of parts in 3D from their home with smartphones or tablets. The app is compatible with Apple and Android devices.

Included parts

The following specially designed parts represent real consumer and industrial applications:

- One mold for mobile phone cases
- One part that represents a flange
- One part that represents a wedge used in machine tools
- One part that represents a bearing housing
- Four parts that represent a conveyor roller
- Two parts that represent an axle
- One part that represents a gearbox cover

Included measuring instruments

All the measuring instruments needed to perform the experiments:

- One set of gauge blocks

- One dial test indicator with a magnetic base and holder
- One portable granite surface plate
- Two 1-2-3 setup blocks
- Two v-blocks
- One sine bar
- One dial bore gauge
- One dial depth gauge
- One 3-point internal micrometer
- One depth micrometer
- One spring clamp
- One pair of inspection gloves
- One roll of adhesive-backed shim tape
- One hexagonal key with a key size of 4 mm
- One 20 mm master ring gauge
- One 24 mm cylindrical go-type gauge

A complete coverage of dimensional metrology

Although this training package does not require any other equipment, consider Festo's TP 47220/47221 Basic Dimensional Metrology to enable beginners in the field to have a solid understanding of the fundamentals of dimensional metrology.

Learn more about this complementary learning solution here

A gateway to quality control

Dimensional metrology symbols, tools and techniques are not only used in the design process of a part but are found in a lot of quality control activities. Consider Festo's TP 47224 Quality control training package to round up the learning of your trainees and make them job ready.

Learn more about this complementary learning solution here

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Equipment Set TP 47222/47223: Geometric Dimensioning and Tolerancing (GD&T) , Advanced dimensional metrology and Geometric dimensioning and tolerancing (GD&T), also known as geometrical product specifications (GPS)

The equipment to teach advanced dimensional metrology and geometric dimensioning and tolerancing shall include precision measuring instruments along with manufactured parts and their corresponding technical drawings. A set of precisely manufactured reference parts is also required. Guided exercises and unguided projects shall be available for students to get an in depth understanding and hands-on practice on the selection, proper use and care of a variety of measuring instruments. All instruments and parts shall be stored in a protective foam on stackable trays equipped with handles.

It shall include the following features:

- Outstanding repeatability from one set of parts to another
- Content available as e-Learning, PDF and printed format
- Exercises are followed by projects to develop decision-making skills
- Portable and stackable storage trays with handles
- Outline of each instrument and part is cut from foam block
- A QR code for each instrument reveals its main technical specifications
- Learning enhanced with Augmented Reality (AR)The following components shall be included:
- 1x set of metric gauge blocks, grade 0
- 1x metric dial test indicator
- 1x articulated holder with magnetic base and locking mechanism
- 1x portable granite surface plate
- 2x 1-2-3 setup blocks
- 2x v-blocks
- 1x sine bar
- 1x dial bore gauge
- 1x dial depth gauge with extension rods
- 1x 3-point internal micrometer
- 1x depth micrometer with interchangeable rods
- 1x spring clamp
- 1x pair of inspection gloves
- 1x roll of adhesive-backed shim tape
- 1x hexagonal key
- 1x master ring gauge
- 1x cylindrical go-type gauge
- 1x part that represent a mold for mobile phone cases
- 1x part that represents a flange
- 1x part that represents a wedge used in machine tools
- 1x part that represents a bearing housing
- 4x parts that represent a conveyor roller
- 2x parts that represent an axle
- 1x part that represents a gearbox cover
- 3x adjustment feet
- 5x stackable storage trays with handles that fit in an optional Systainer®The following learning aims for students should be covered with specific didactical documentation (available in physical or digital format):
- Describe geometric dimensioning and tolerancing (GD&T).
- Understand the differences between ISO and ASME standards.
- Read GD&T symbols on technical drawings.
- Describe the main categories of geometric tolerances.
- Know what gauge blocks are, their function, how to maintain and combine them.
- Describe dial indicators, their accessories and their function

Manual

Description	Manual number
Dimensional Metrology (Workbook (Instructor))	8130693 (81306-93)

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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