TZ 100

Engineering drawing: three-dimensional display

The illustration shows the device and the GUNT Media Center on a tablet (not included).

Description

- **GUNT course: engineering drawing**
- **model set for developing spatial concepts**
- **fundamentals of three-dimensional display**

In order to describe a spatial body adequately and thereby fulfil a basic principle of exact replication and repeatable production, several views of the body are usually necessary. To do this, bodies are shown in three planes: front view, side view and plan or bottom view. The presentation follows fixed rules that are defined in the standards. Even for simple bodies, the presentation in three planes requires a considerable degree of abstraction ability and spatial imagination on the part of students. This ability is a prerequisite for both creating and interpreting engineering drawings or sketches and is taught by means of geometric models.

The TZ 100 model set provides a learning concept with which to introduce students to the discipline of descriptive geometry.

A 3D frame made of plexiglas enables multiview projection. The models are placed in the middle of the 3D frame. The corresponding view is inserted into each plane of the 3D frame, so that it is possible to directly compare model (workpiece) and drawing.

A total of ten models of varying difficulty are included. One model is made of Plexiglas in order to develop an understanding of hidden edges. The other models are made of aluminium.

The models are precision-manufactured so that measuring exercises can also be conducted. All parts are clearly laid out and well protected in a storage system.

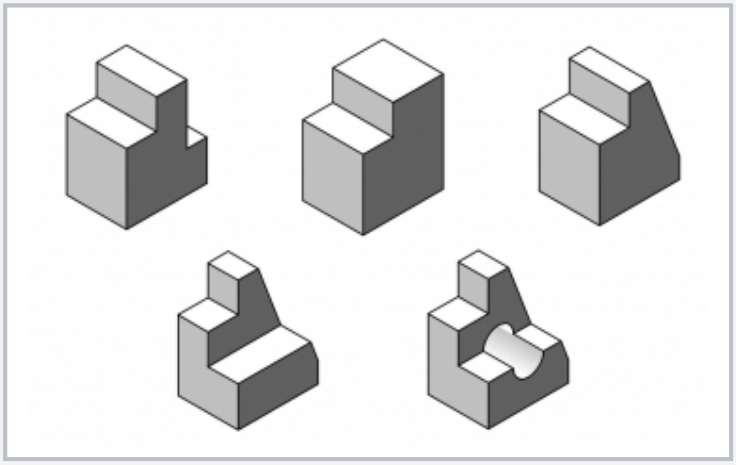
The contemporary multimedia instructional materials are available online in the GUNT Media Center. The core element of the teaching materials is a complete set of drawings for each model. The set of drawings consists of DXF files, STEP files and PDF files.

Learning objectives/experiments

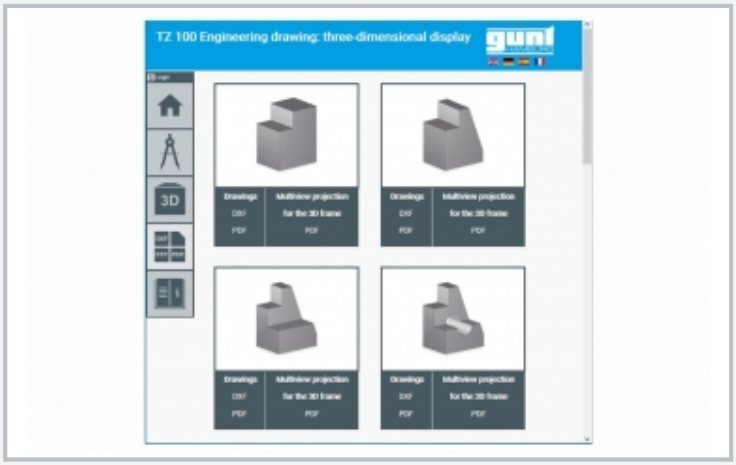
- familiarisation with three-dimensional display as a basic principle of engineering drawing
- step-by-step development of spatial thinking: from the concrete situation to the abstract representation in an engineering drawing
- measuring exercises

TZ 100
Engineering drawing: three-dimensional display

3D frame for multiview projection made of three Plexiglas planes with inlaid drawing and a prismatic model



Prismatic models



Screenshot of the GUNT Media Center

Specification

[1] set of models from the descriptive geometry discipline to develop spatial concepts
[2] introduction to engineering drawing
[3] precision manufacture of the models allows measuring exercises
[4] 3D frame for multiview projection comprising three Plexiglas planes
[5] 9 aluminium geometric models; cylindrical and prismatic shapes
[6] 1 Plexiglas model
[7] storage system for parts
[8] multimedia instructional materials: PDF, DXF files, STEP files
[9] online access to the GUNT Media Center

Technical data

5 prismatic models
- LxWxH: 40x30x50mm

4 cylindrical models
- ØxH: 40x50mm

1 transparent model
- LxWxH: 40x30x50mm

3 Plexiglas planes
- LxWxH: 100x100x100mm

LxWxH: 335x240x71mm (storage system)
Weight: approx. 3kg

Scope of delivery

1 storage system with foam inlay
1 set with 10 geometric models
3 Plexiglas planes for multiview projection
1 rod for holding the models
1 paper punch
1 set of instructional material, complete set of drawings included