

## Computed tomography

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### Principle

The CT principle is demonstrated with the aid of simple objects. In the case of very simple targets, only a few images need to be taken in order to achieve a good result. The more complicated the objects are, the more images are necessary in order to show all the details. In addition, special samples are used to demonstrate how artefacts are generated and what causes beam hardening.

### Benefits

- Very fast, direct image capture
- Easy to understand linear procedure does not require training, instant results
- Integrates smoothly with software used in medical diagnostics to use additional CT software features
- All objects can be captured since object is inserted gravity-independently

### Tasks

1. Record a CT scan of the simple objects. While doing so, vary the number of steps.
2. Record a CT scan of the metal samples and analyse the result in view of beam hardening.

### Learning objectives

- Beam hardening
- Artefacts
- Algorithms

(Software for Windows included. Requires computer with graphics board.)

### Scope of delivery

XR 4.0 expert unit, 35 kV	09057-99	1
XR 4.0 X-ray Computed Tomography upgrade set	09185-88	1
XR4 X-ray plug-in W tube	09057-81	1