

X-Ray / CT / Radiation Therapy / Special Procedures

# Anthropomorphic X-Ray Phantoms



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# Sectional X-Ray Phantoms

Phantoms to simulate anatomical reality in Education, Dose Awareness Programmes, X-Ray Equipment Tests and Special Trainings



## Sectional X-Ray Phantoms

Our body part x-ray phantoms allow repeated x-ray imaging of specific body regions. The phantoms feature real bones. They are ideal for schools and education, but also for medical technicians since the same phantom can be x-rayed repeatedly in different settings without the danger of harming a patient. The bones are embedded in tissue-equivalent material.

All phantoms are hand-made and unique. They may differ in size and shape. Due to production technology there may be discolouring and cracks inside the phantom. This is related to production and presents no quality issue. These phantoms are only sold against a proof of medical use.

*NOTE All part phantoms are available as transparent or opaque versions (just **add -o** to the article number to obtain the **opaque** version of the ordered phantom).*

### General Head Phantom

Art. No. 12702

Featuring lower jaw and 5 vertebrae



### Hand Phantom

Art. No. 12711

Featuring wrist.



### Elbow Phantom

Art. No. 12715

Featuring joint, upper and lower arm section.



### Shoulder Phantom

Art. No. 12717

Featuring upper arm with pectoral girdle .

### Foot Phantom

Art. No. 12712

Featuring ankle joint.



### Arm Phantom

Art. No. 12713

Featuring lower arm and elbow.

### Knee Phantom

Art. No. 12714

Featuring thigh, lower leg and kneecap.



# Sectional and Head Phantoms

Phantoms for x-ray procedure trainings



## Spine Phantom

Featuring 24 vertebrae and sacral bone.

Art. No. 12717

## Hip Phantom

Featuring pelvis, 2 lumbar vertebrae and thigh parts.

Art. No. 12716



## Dental Head Phantom

The dental anatomy head phantom is specifically prepared to be used for dental applications such as panoramic, cephalometric, dental Cone-Beam CT, or general 3D imaging.

Art. No. 12701

The phantom features a real human skull with lower jaw and 5 cervical vertebrae, the jaw is slightly opened. Due to the fact that the dentition is completely embedded in tissue-equivalent material, the phantom cannot be used with intra-oral sensors for training or testing.

For artefact assessment in dental x-ray, tooth repairs or inlays can be included. Specific repairs, fillings or crowns can be added on customer request.

For easy positioning, a screw thread is embedded to set up the phantom on a tripod. Case for transport and storage is included. Weight: 5–6 kg.

*NOTE The head phantoms are available as transparent or opaque version (just **add -o** to the article number to obtain the opaque version of the ordered phantom).*



## Basic Head Phantom

This anthropomorphic phantom features a real human skull with connecting jaws and no extra vertebrae.

Art. No. 12703

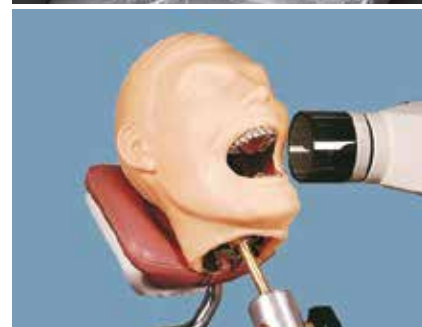
## Dental X-Ray Training Phantom

The dental intra-oral X-ray training phantom includes a special DENTO-FORM® model with radio-opaque metal teeth, flexible finger for holding film, bite-opening instruments, and latex tongue.

Art. No. 12704

Adult version. Chair mount included. Weight: 3 kg.

Also available: paediatric version, holder for bench/table.





# Full-Body Phantoms

Phantoms to simulate anatomical reality in Education, Dose Awareness Programmes, X-Ray Equipment Tests and Special Trainings



## **Anthropomorphic (X-Ray) Training Phantom** Art. No. 12731

This model is unique in the world and provides ideal prerequisites for x-ray trainings. It is a must-have for all radiological schools.

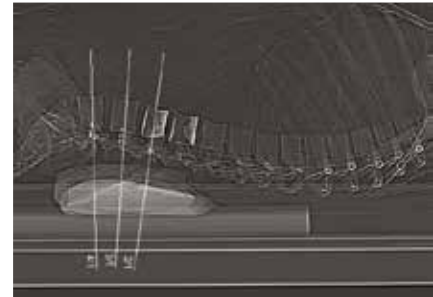
The phantom can be utilised for positioning practice as well as for general x-ray training.

The model contains a real human skeleton and allows taking x-ray images comparable to a real patient. In addition to the real skeleton, the phantom incorporates reproductions of heart, lungs, larynx and kidneys which can be identified on the x-ray images.

Each model is hand-made and differs in size and design. It may include some pathologies and may also differ in appearance. This model is only sold against proof of medical use.

Life size.

Weight: 32 kg.



## **Full-Body Positioning Phantom**

Art. No. 12732

As the true anatomy version, this model offers the same physical features but contains a full-body plastic skeleton. Its main purpose is primarily aimed at x-ray positioning training.

Weight: 32 kg.



## **Box for Full-Body Phantoms**

Included

Transport and storage box for full-body phantoms. Features handles for one or more people to move the box.



# Tissue-Equivalent Phantoms

Unique Sectional Tissue Mimicking Phantoms



This new kind of highly realistic phantoms was designed to simulate clinical imaging and dose exposure in computed tomography including dual energy CT, X-ray and radiation therapy. The models provide realistic simulations of all tissue as well as realistic attenuation values.

The phantoms further provide imaging details of patients and therefore enable application to test and optimise image quality, dose, dose verification at low and high energy exposure and training of medical and tzechnical staff.

The phantoms are manufactured based on a real CT data set and include anatomic details for all tissue materials. Each model is a hand-finished unique piece, which can differ slightly in size and shape. The phantoms can be provided as one-piece anthropomorphic phantom or in a sectional design, and it can include openings for dosimeters. Pathologic features (e.g., masses, vascular pathologies) can be included upon request.

## Head and Neck Phantom

On request

Highly realistic head and neck phantom designed to simulate clinical imaging and dose exposure in CT (including dual energy), x-ray and radiation therapy. It provides realistic simulation of all tissue and attenuation values.



## Extremity Phantoms

On request

The phantoms can be provided as one-piece anthropomorphic phantom or in a sectional design, and it can include openings for dosimeters. Pathologic features (e.g., masses, vascular pathologies) can be included upon request.



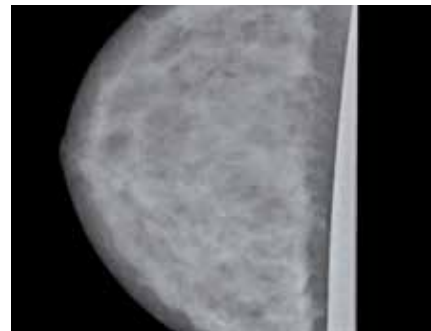
## Breast Phantom

On request

For Mammography and Digital Breast Tomosynthesis.

The phantom features adipose and glandular tissue. It represents a compressed breast of 4 cm thickness that can be placed under the compression paddle.

The phantom is manufactured from virtual data containing adipose and glandular tissue. Each model is a hand-finished item which may differ slightly in size and shape. The phantom can be provided as one-piece anthropomorphic phantom or in a sectional design. Dosimeter openings and pathologic features can be included upon request.



# Specialised Body Phantoms

Phantoms to simulate anatomical reality in Education, Dose Awareness Programmes, X-Ray Equipment Tests and Special Trainings



## **Anthropomorphic CT Body Phantom**

On request

A unique, life-size whole body phantom for CT provides a variety of educational applications as well as visual evaluation in finding out optimal CT scanning conditions. The phantom can also be used for plain X-ray, showing life-like images. No metal parts or liquid structure are used.

Main joints have close-to-human appearance, allowing various positions for training. The phantom can be disassembled into 10 parts. Improved shoulder joint system enables the phantom to take arm-up positions. Organs are anatomically correct and have appropriate HU numbers.

Patient Positioning: Shoulders (rotate through a full 360 degrees in the sagittal plane, approx. 180 degrees side-ways); Hip joints - rotate forward up to approx. 90 degrees, then abduct up to 45 degrees each; Knees - bend up to approx. 90 degrees; Elbows - bend up to approx. 90 degrees.

The phantom can be held in the supine frog leg position. Limbs and head are detachable at joints and neck for wider applications. The head support facilitates various head positions.

Internal Organs: head and trunk, synthetic skull, cervical vertebrae, brain, vertebrae, clavicles, ribs, sternum, scapula, coxal bones, femurs, lungs with pulmonary vessels, trachea, liver with portal and hepatic veins, pancreas, kidneys, gallbladder, spleen, aorta, vena cava, ureter, urinary bladder, prostate, rectum, sigmoid colon.

Phantom Materials: radiology absorption and Hounsfield number approximate to human body.

Size and Weight: 170 cm / 50 kg.

Also available as **Paediatric Body CT Phantom** (105 cm / 20 kg), or as completely **modular version**.



## **Lung Cancer Screening Phantom**

On request

This phantom is an adapted CT phantom developed to optimise radiation dose and other scanning conditions for Lung Cancer Screening CT examination. Helical CT or MDCT can be tested.

As the screening is usually done on healthy people, the necessity of minimising the exposure while maximising the image quality is considered as imperative. The phantom is designed to simulate conditions for the early detection of small lung cancers such as GGA, which are difficult to diagnose in plain X-ray.

The anthropologic design of the phantom provides life-like images allowing operators a visual evaluation. Quantitative evaluation on radiation dose and density curve of the image can be done stimulatory with a single scan. The model consists of a life-size torso with arms-up position and has the following internal structures: bones; simulated tumors on sections of three lung area (apical portion of the lungs/bifurcation of the trachea/base of lungs); dose-meter inserts (13 mm diameter, on the central axis of the phantom); 8-step linearity phantom; 8 steps of 30mm diameter; embedded density samples.





# Miscellaneous Phantoms

Phantoms for special applications



## Coronary Simulator

On request

Heart catheter simulator consisting of plastic base with pump and electronics as well as silicone coronary model consisting of ventricle with coronary arteries, aortic valve, aortic arch with branches, descendent aorta and femoral artery. Weight: 8 kg. The model features:

- Life-size reproduction of the coronary arteries
- All vessels are elastic and transparent
- Fluid filled, with pulsatile or continuous flow
- Several stenoses included
- Perfect for training of interventional procedures
- Visual as well as radiological supported catheter positioning possible
- Easy to use, power supply required
- Integrated basin for clean working
- Easy and quick vessel part replacement, if required
- Compact construction, perfect for mobile use



## Also Available

On request

- \_ Movement Phantoms
- \_ Ultrasound QA/QC Phantoms
- \_ Anatomical Charts
- \_ Anatomical Models (Plastic)
- \_ Skeleton Models (Plastic)
- \_ Organ Models / Body Part Models (Plastic)
- \_ Medical Simulators
- \_ Cancer Prevention Models
- \_ Veterinary Models



## Angiography Head Phantom

On request

This model consists of a real human skull which is embedded in a tissue equivalent head. In the left half of the skull the anterior and middle cerebral arteries are represented and filled with contrast medium. The diameter of the arteries range from 0.5 mm to 4 mm.

Weight: 5 kg.





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