phantomx

Article Number
502-02

HEAD PHANTOM

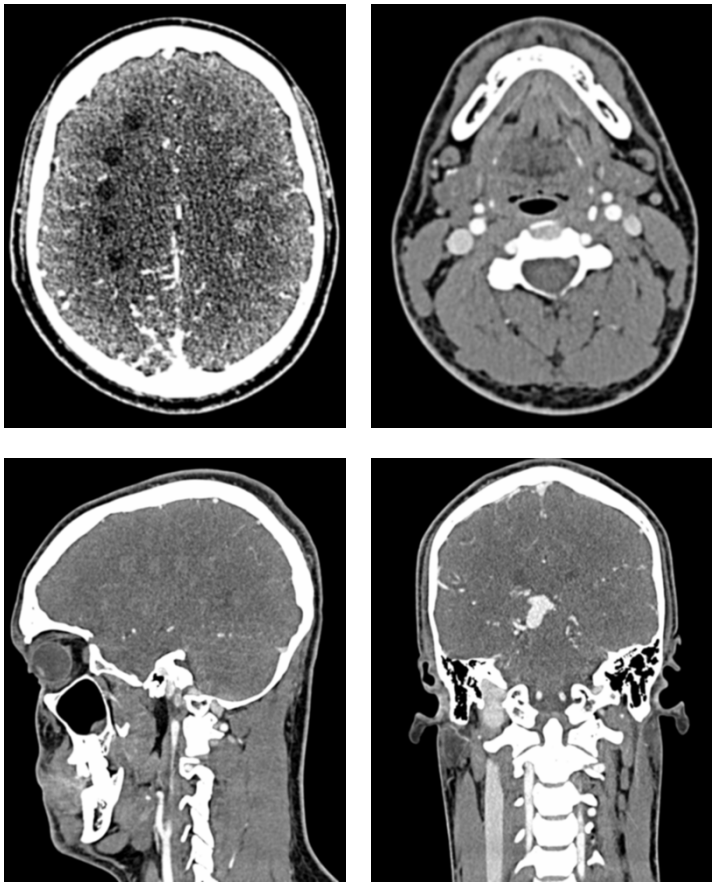
Age Category	Adult
Body Region	Head
Target Modality	CT
Diagnostic Features	Arteriovenous malformation Low contrast lesions

This head phantom can be used in CT for evaluation of low-contrast signals in the brain. It was designed to enable evaluation of diagnostic software, including AI tools.

The phantom simulates a contrast medium enhanced head in arterial phase (CT angiography) and has 10 low-contrast lesions in the centrum semiovale. The neck is included up to the fifth cervical vertebra.

The phantom provides a detailed and realistic simulation of soft and bone tissue, including small details such as lymph nodes. The right hemisphere has an arteriovenous malformation. Air voids are filled with a cellulose-polymer composite of approx. -80 HU.

The phantom can be used for detection, segmentation and classification tasks and other common methods of image quality evaluation.



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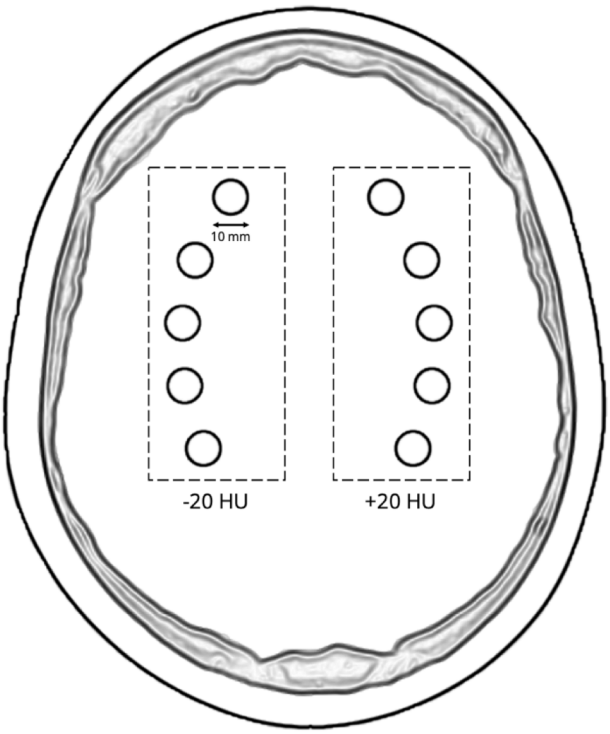
HEAD PHANTOM



Specifications

Size	Approx. 186 x 234 x 269 mm
Weight	Approx. 5500 g
Base material	Cellulose-polymer composite
Optimal tube voltage	120 kVp (cf page 3) - adaptable upon request -

Diagnostic features

- Arteriovenous malformation of the right hemisphere
- 5 rod-shaped lesions on each side in the centrum semiovale at the periventricular and supraventricular level

Lesion diameter:	10 mm
Lesion height:	10.5 mm
Lesion contrast:	Approx. -20 and 20 HU at 120 kVp

Similar products

- Head phantom
- Abdomen phantom with liver lesions
- Abdomen phantom with pancreatic lesions
- Breast phantom with microcalcifications and breast mass

For more information visit
www.phantomx.de

HEAD PHANTOM

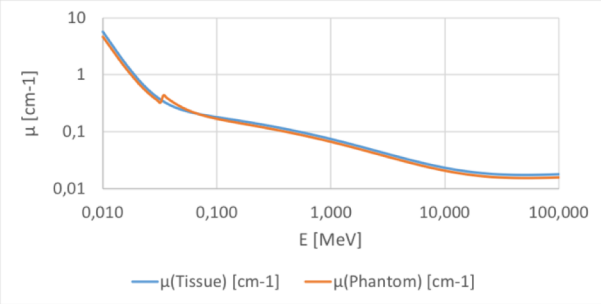
General indications

- The phantom is made of a cellulose-polymer composite material with properties similar to hardwood. If handled carefully, it will last a long time.
- The phantom is coated with a protective layer. If the protective layer is undamaged, the phantom can be cleaned using a damp cloth (water or mild detergent).
- Protect from direct sunlight.
- Maintain a storage temperature of 10 °C to 30 °C. If the phantom is exposed to temperatures below -10 °C or above 45 °C, it can be severely damaged.
- The phantom is not equipped for dose measurements with dosimeters and it is not suited for material characterization with dual energy CT.
- The phantom is not certified as medical device.
- Air voids are filled with cellulose-polymer composite of approx. -80 HU.
- Lesion contrasts can slightly vary due to the anatomical phantom structure.

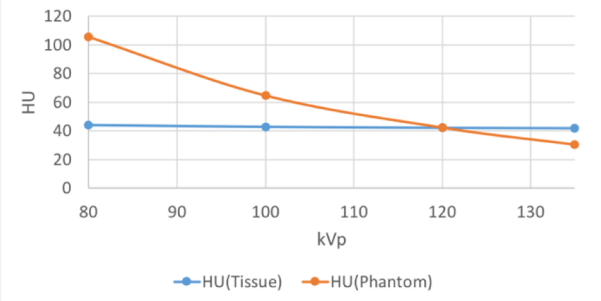
Attenuation properties

Soft Tissue

Linear attenuation coefficients [cm^{-1}] (calculated)

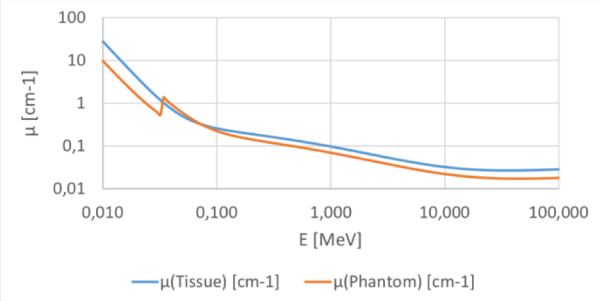


Hounsfield units (calculated)

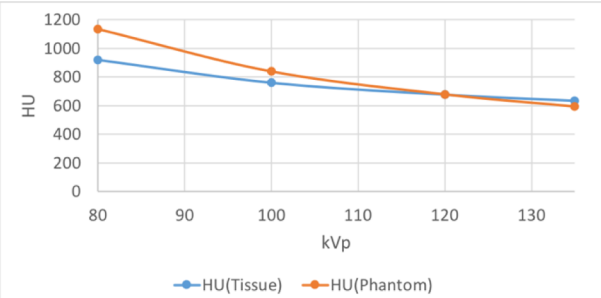


Bone Tissue

Linear attenuation coefficients [cm^{-1}] (calculated)



Hounsfield units (calculated)



Tissue Reference: Woodard HQ, White DR. The composition of body tissues. Br J Radiol. 1986.

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