

DXA-Spine-QA-Phantom

A Phantom for Quality Assurance of DXA Bone Mineral Density Measurements of the Spine.

Designed on the basis of the well established European Spine Phantom (ESP) the QRM-DXA-Spine-QA-Phantom incorporates a simplified and more cost effective design of the vertebrae specifically developed for quality assurance (QA) and stability monitoring of Dual X-ray Absorptiometry (DXA) devices.

With the QRM-DXA-Spine-QA-Phantom, areal Bone Mineral Density (aBMD) can be easily determined in AP and lateral projections.

Benefits

- ✓ bone mineral content (BMC) in g
- ✓ bone mineral areal density (BMD) in g/cm^2 for DXA AP and lateral projections
- ✓ projected area (A) in cm^2

Specification

Phantom body	tissue-equivalent plastic
	at 120 kV (CT)
L1- L3	3 fully homogeneous
Phantom body	260 mm x 180 mm ($\pm 2\text{mm}$)
Phantom weight	4300 g

Version 1

3 identical vertebrae:	
aBMD (AP)	1.0 g/cm^2

Version 2

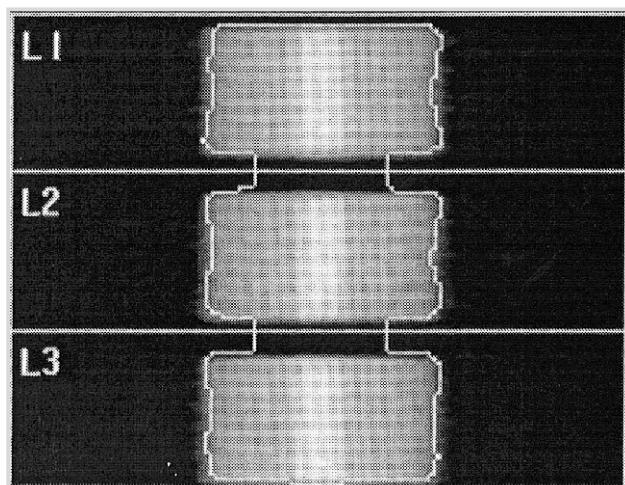
3 different vertebrae:	
aBMD (AP)	0.5, 1.0 and 1.5 g/cm^2

Accuracy $\pm 3\%$ of specified values
 $\pm 1\%$ of certified values

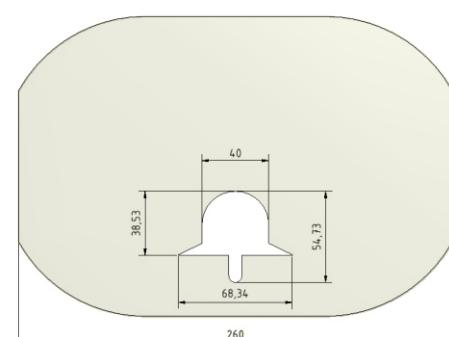
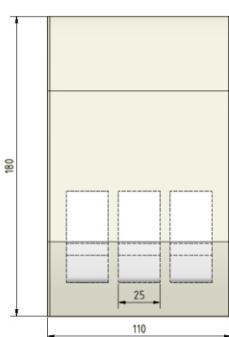
Different HA concentrations for the vertebrae



The QRM-DXA-Spine-QA-Phantom



DXA AP scan of the phantom (3 identical vertebrae)



Measures of the QRM-DXA-Spine-QA-Phantom