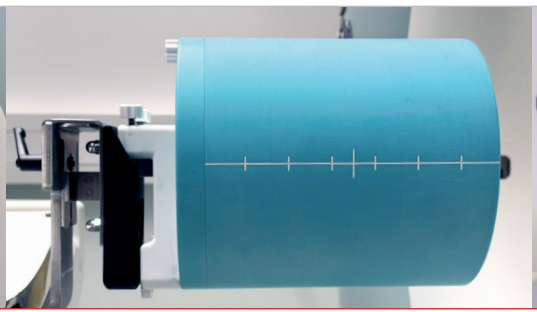
QRM Product Highlights

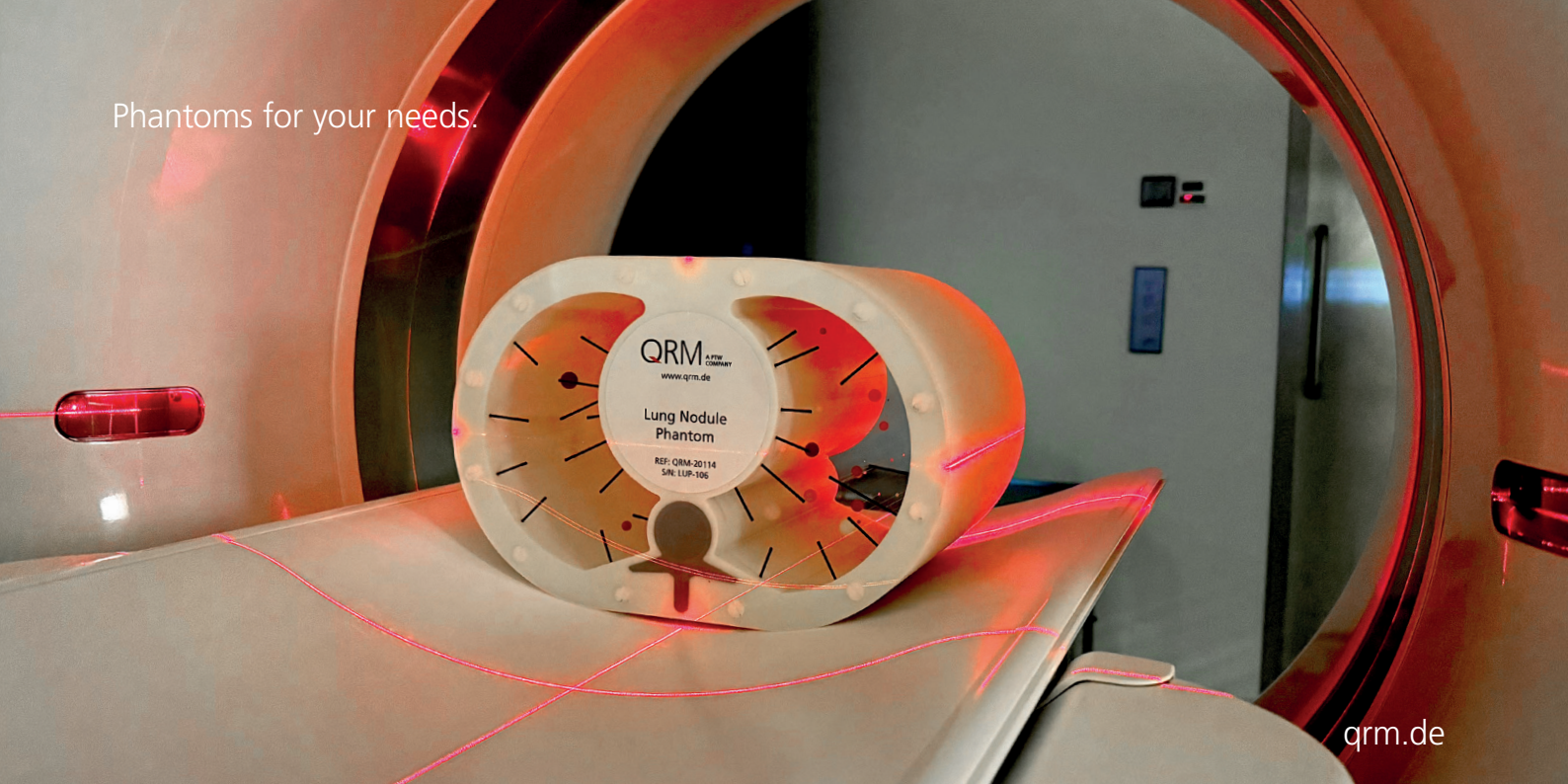
QRM A PTW COMPANY







qrm.de


Phantoms for your needs.
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A PTW COMPANY
www.qrm.de
Lung Nodule Phantom
REF: QRM-20114
S/N: LUP-106
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QRM - A PTW Company

A milestone in the history of both companies

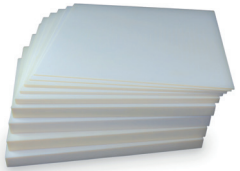


- In 1922, PTW started being a pioneer in medical radiation measurements. Since then, PTW has always been and will continue to be at the forefront of advancing patient safety through innovation and cutting-edge measurement technology.
- In 1994, QRM (Quality Assurance in Radiology and Medicine) was founded by Professor Willi A. Kalender as a university spin-off of the Institute of Medical Physics in Erlangen, Germany, for the development, design, construction, and production of phantoms for quality assurance in X-ray imaging and associated procedures.
- Since April 2020 QRM is a subsidiary of PTW-Freiburg.













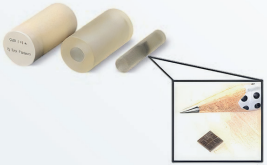




Image Quality

Bone Densitometry

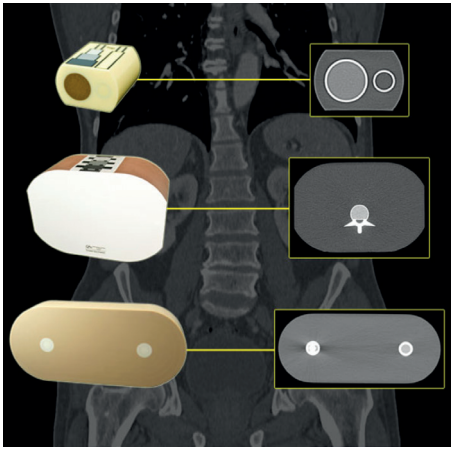
Micro-CT

Customized solutions

... and many more

Phantoms for your needs.

Powerful expertise in quality assurance

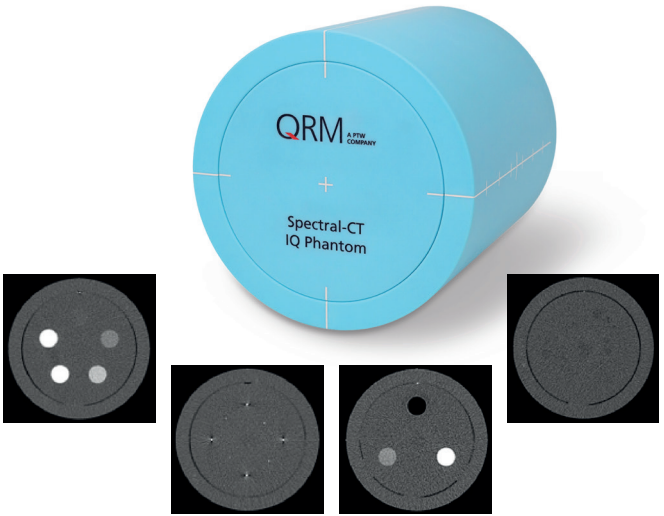


- Dedicated phantom solutions for advanced diagnostic radiology, radiotherapy, bone densitometry (DXA and qCT), Micro-CT / Micro-PET for small animal research, Spectral CT and many other applications
- Tissue-equivalent materials mimic human tissues according to ICRU Reports 44 and 46
- Unique solution: Micro-CT Bar Pattern Phantom NANO
- Customized solutions according to your specification


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REF: QRM-10108
S/N: DTI-106
Adipose Tissue

Image Quality Phantoms

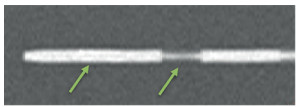
Convenient testing of all relevant imaging parameters



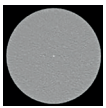
Spectral CT IQ Phantom

- Compatible with dual-energy, multi-energy, PCCT, CBCT and IGRT systems. The modular design enables fast configuration across different scanner types
- Suitable to evaluate image quality parameters
  - Spectral CT QA
  - Electron density image (ρe and Zeff)
  - CT number accuracy
  - Noise magnitude
  - Homogeneity/ Image uniformity
  - Spatial resolution
  - Modulation Transfer Function (MTF)
  - Low-contrast detectability
  - Slice Sensitivity Profile (SSP)
  - Noise power spectrum

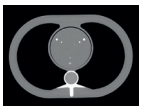










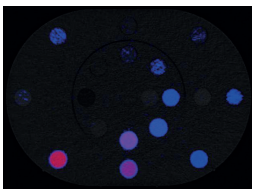


	Coronary Artery Stenosis Phantoms	Wire MTF Phantom	Cardio Calcium Scoring Phantom
Application	To analyse of various case studies on coronary heart disease	To assess in-plane spatial resolution of any X-ray imaging in 3D direction	To investigate the influence of scan parameters on the detectability of calcifications
Inserts	Several sets with various plaque and lumen combinations	50 micron tungsten wire	9 inserts with different CaHA concentrations and sizes
Diameter	3.0 mm lumen diameter (with the models AX, BX and DX)	60 mm (standard) 100 mm (with D100)	100 mm (insert size)
Base material	Tissue-equivalent	Resin or air	Tissue-equivalent (resin)

Image Quality Phantoms

Convenient testing of imaging parameters









Multi Energy QA Phantom

- Suitable for Photon counting CT protocols in addition to all available spectral CT protocols
- 26 inserts including rods enriched with several contrast media (water+iodine, adipose+iodine) as well as calcium (water+calcium hydroxyapatite), each material with different concertrations
- Automated analysis software (Auto QA Plus)

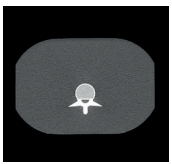
Spectral CT Phantom

- Test different types of computed tomography (CT) scanners with dual-energy, multi-energy or photon-counting protocols and post-processing techniques in terms of accuracy and consistency
- Different solid rods: Iodine, calcium, water and soft tissue-equivalent materials such as adipose, muscle, liver and lung
- Automated analysis software (Auto QA Plus)


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Hip-QC120-Phantom
QRM
BDC

Bone Densitometry Phantoms

Evaluation of the bone mineral density by DXA and qCT









European Spine Phantom

- To evaluate bone mineral density
- For cross-calibration of CT and DXA
- For DXA (dual-energy x-ray absorptiometry) and qCT (quantitative computed tomography)
- Three vertebrae (L1/L2/L3) with different dimensions and bone mineral content

Bone Density Calibration Phantom

- HU vs. CaHA calibration with respect to bone mineral density evaluation of bones
- Several options with different lengths and HA inserts
- Easy to use as placed directly under an object


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Quality Assurance in Radiology and Medicine
M32 Wire
10 µm W

Micro-CT Phantoms

Evaluate a wide range of image quality parameters



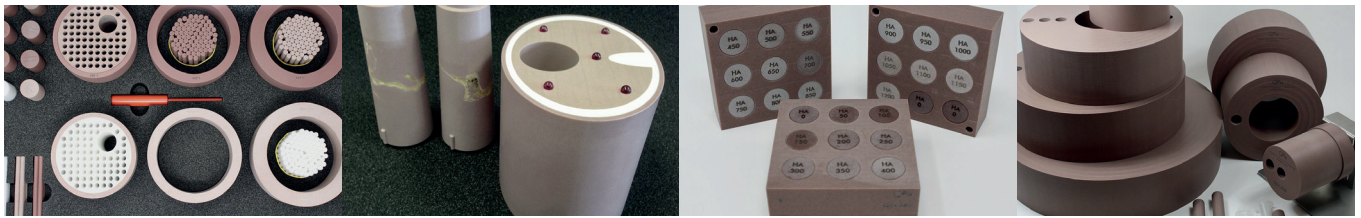
Micro-CT HA Phantom

- Worldwide standard for measuring small animal Micro-CT bone mineral density
- 5 different inserts with various CaHA densities (0, 50, 200, 800, and 1200 mg HA/cm^3)
- Available diameters 4.5/10/20/25/32 mm

Micro-CT Bar Pattern Nano Phantom

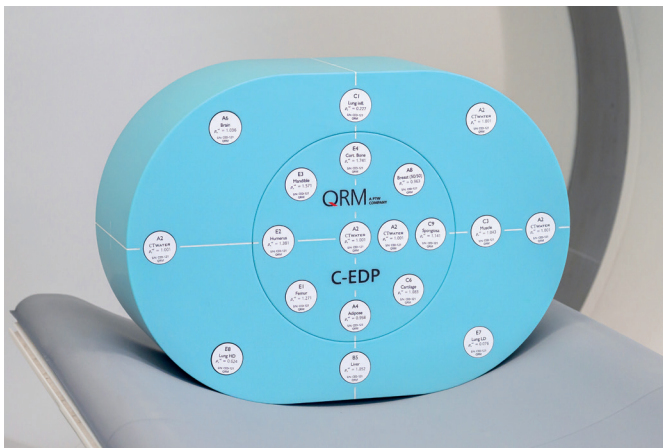
- For the evaluation of in-plane and axial high spatial resolution down to 1 micron
- Center and corner sections providing several bars and point patterns between 1-10 micron
- Chip with 2 actinomorphic stars

Customized phantoms for your needs.



Radiation Therapy Solutions

Calibration of radiation oncology treatment plans in research studies and experimental setups



Comprehensive Electron Density Phantom

- To create electron density calibration curve of computed tomography (CT) scanners for treatment planning systems (TPS) in research studies and experimental setups
- Suitable for electron, photon, and proton therapy systems
- Available materials: 9 body and 10 head inserts
- ICRU tissue equivalent materials: CTwater, muscle, adipose, liver, brain, lung, breast, cartilage, spongiosa, femur, humerus, mandible, cortical bone
- Optional titanium, stainless steel, or aluminum inserts
- Calibration certificate with densities, electron density and effective Z
- Automated analysis software (Auto QA Plus)

QRM A PTW COMPANY

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