

# dental CBCT Phantom (BASIC)

Measure the imaging performance of dental Cone-Beam computed tomography (CT) equipment. Perform acceptance and constancy tests with a compact, easy-to-use phantom.

The QRM-dental CBCT Phantom is designed to evaluate the imaging performance of CBCT devices in accordance with international guidelines (e.g. dental CBCT, digital volume tomography).

The phantom offers the possibility to assess all image quality metrics in accordance with national and international standards (e.g. DIN IEC 61223-3-5 or DIN IEC 61223-2-6).

The following image quality metrics can be obtained:

- CT value uniformity
- CT value accuracy
- Image noise
- Contrast-to-noise ratio (CNR)
- Spatial resolution (3D MTF)

### 3 Defined Sections:

**Section I** 4 inserts in water: air, -3% contrast, +3% contrast, and bone arranged concentrically

**Section II** Homogeneous water equivalent slice

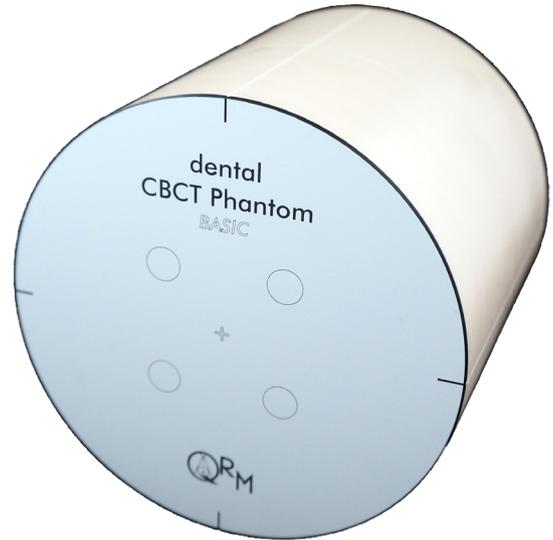
**Section III** Centrally placed high attenuating sphere

### Technical Specifications:

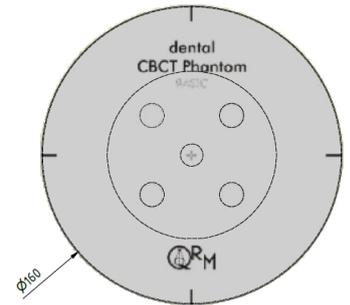
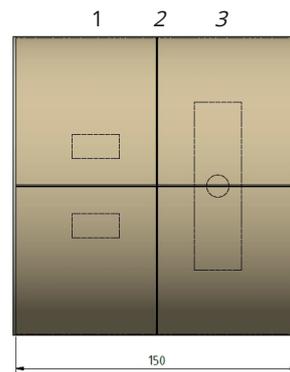
- Diameter (xy) : 160 mm
- Height (z) : 150 mm
- Body : CTWater®
- Sphere : Al, Ø 12 mm
- Inserts : Ø 13 mm, L 25 mm

**Please ask for more information:**  
[qrmphantoms@ptwdosimetry.com](mailto:qrmphantoms@ptwdosimetry.com)

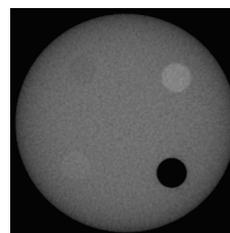
**References:**  
 A quality assurance framework for the fully automated and objective evaluation of image quality in cone-beam computed tomography  
 Ch Steiding, D Kolditz, WA Kalender; Medical Physics, 41, 031901 (2014)



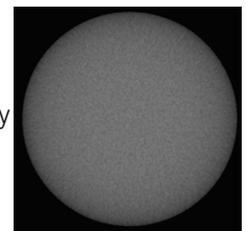
dental CBCT-Phantom BASIC



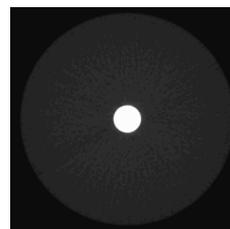
cross sections of phantom



1 SCALING  
 bone  
 water  
 +3%; -3%



2 NOISE  
 homogeneity  
 noise



3 MTF  
 12 mm sphere

in-plane reconstruction of X-ray CBCT scans