

Dental CBCT QA Phantom (**EXPERT**)

Measure imaging performance of dental Cone-Beam Computed Tomography equipment. Perform acceptance and constancy tests with a compact easy-to-use phantom.

The QRM-dentalCBCT Phantom (EXPERT) is designed to evaluate the imaging performance of conebeam-ct (CBCT) devices according to international guidelines (e.g. dental CBCT, Digital Volume Tomography).

The phantom offers the possibility to assess 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
- spatial resolution (3D MTF, sphere)
- spatial resolution (visual, hole pattern)
- artifact behavior metal/bone/soft tissue

5 defined sections:

Section I	4 Inserts in water: air, -3% contrast, +3% contrast and bone arranged concentrically
Section II	centrally placed high attenuating sphere
Section III	homogenous water equivalent slice
Section IV	acrylic resolution pattern
Section V	Ti rods and tissue equiv. inserts

Technical Specifications:

Diameter (xy):	100 mm
Height (z):	100 mm
Body:	CTWATER®
Sphere:	Al, Ø 12 mm
Inserts:	Ø 13 mm, L 17.5 mm
	Ø 9 mm, L 17.5 mm
hole pattern:	0.3 to 1.0 mm h°/v°
extension ring	Ø 160 mm

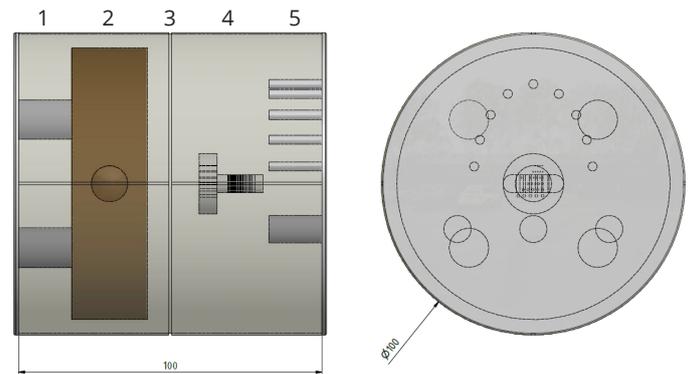
An automated evaluation software (ImpactIQ Wizard) is available seperately or as a package with the phantom.

Please note: if using the software, your systems FOV has to completely cover the phantom in height, otherwise a correct automated evaluation is not possible.

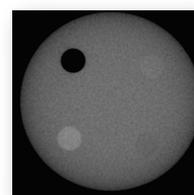
Please ask for more information: info@qrm.de



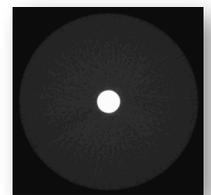
dentalCBCT-Phantom Expert



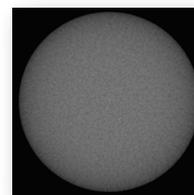
cross sections of phantom



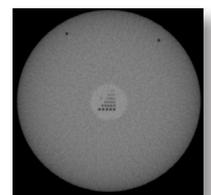
1 scaling:
bone
water
+3%; -3%



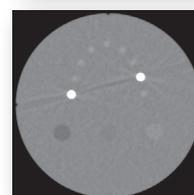
2 MTF:
12 mm sphere



3 noise:
noise
homogeneity



4 resolution:
hole pattern
0.3 - 1.0 mm



5 artefacts:
-8%; 0%; +8%
tooth sector (HA)
titan rods

in-plane reconstruction of X-ray CBCT scans