



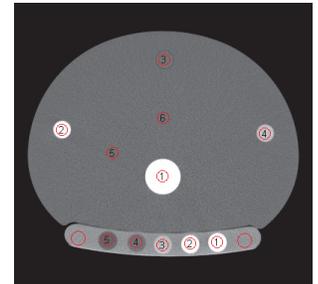
# Model 3 QCT Phantom

## FEATURES

- Converts CT attenuation values to aqueous  $K_2HPO_4$  equivalent densities.
- Calibration valid in the x-ray energy range used for typical whole-body CT scanners.
- Five reference materials span a wide,  $K_2HPO_4$  equivalent-density range from approximately -50 mg/cc to 375 mg/cc.
- Calibrated reference material density precision typically better than 0.4%.
- 18" length accommodates a large scan volume.
- Can be used with all modern whole-body CT scanners.
- Solid design has indefinite service life.
- Matching quality control phantom.

## The Next Generation in CT Calibration Phantoms

Mindways introduces its new, maintenance-free, solid CT calibration phantom. The solid CT calibration phantom is intended for use in applications appropriate for a UCSF-designed liquid  $K_2HPO_4$  CT calibration phantom. While liquid  $K_2HPO_4$  phantoms use aqueous  $K_2HPO_4$  solutions as references for transforming measured CT pixel values from Hounsfield Units (HU) to units of equivalent  $K_2HPO_4$  density, our new solid phantoms use solid reference materials to accomplish this same task. The solid phantoms are cross-calibrated against aqueous  $K_2HPO_4$  references using a CT-scanner independent method that is valid for CT scanners operating in the diagnostic x-ray energy range.



The UCSF-designed liquid  $K_2HPO_4$  CT calibration phantom includes four reference solutions ranging in density from 0 mg/cc to 200 mg/cc  $K_2HPO_4$  equivalent density, while the Mindways solid CT calibration phantom includes five reference materials spanning an effective  $K_2HPO_4$  density range of approximately -50 mg/cc to 375 mg/cc. The precision of the solid reference material densities is typically better than 0.3% for reference materials with an equivalent  $K_2HPO_4$  density below 200 mg/cc, and typically better than 0.4% for reference materials with an equivalent density above 200 mg/cc. The excellent precision of the solid reference material densities coupled with the large density dynamic range of those materials results in CT calibrations with precisions comparable to or better than those derived with a UCSF-designed liquid  $K_2HPO_4$  CT calibration phantom. Shown with matching QA phantom.



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