

IsoCenter Cube QUASAR BY MODUS QA

A simple yet powerful daily QA test to verify IGRT setup accuracy

The QUASAR™ IsoCenter Cube is designed to implement a modified Winston-Lutz test for IGRT accuracy required for optimal treatment delivery. This system is also used for TG-142 quality assurance compliance for isocenter and laser alignment tests.

End-to-end positioning accuracy from planning CT to clinical IGRT treatment setup is achieved with 0.1 mm precision and is accomplished in minutes. The test is performed by aligning the QUASAR™ IsoCenter Cube Phantom using the cross-hairs etched on each side with your IGRT system,



KEY FEATURES

- Compatible with TG142 tests
- Check various beam shaping devices
- Analyze EPID radiation field exposures
- Quick and simple Winston-Lutz testing for IGRT accuracy
- Report left/right, superior/inferior and anterior/posterior errors at configurable gantry, collimator and table angles



Above: The acrylic 5 x 5 x 5 cm QUASAR™ IsoCenter Cube Phantom used for measuring isocenter accuracy

then capturing radiation field exposures with film or EPID. The test results are used to determine end-to-end accuracy for frameless SRS, SBRT, and IGRT treatments.

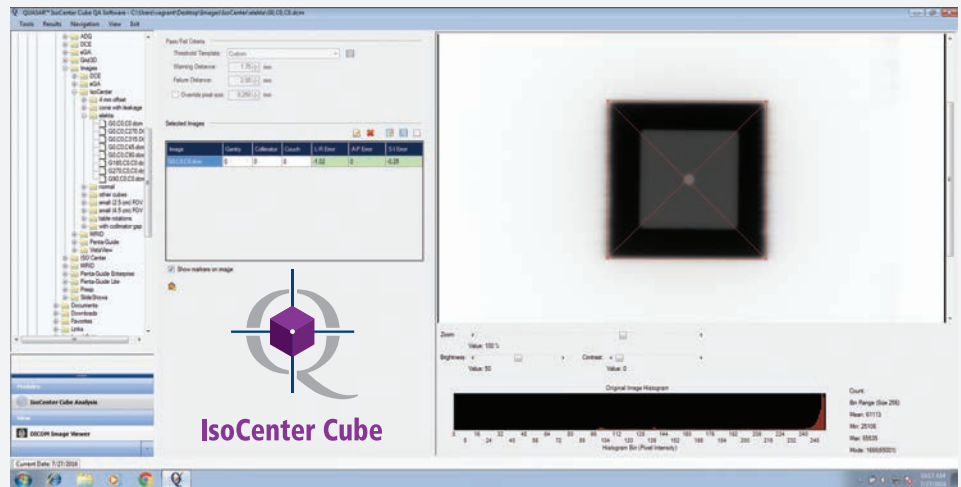
The QUASAR™ IsoCenter Cube Phantom features a seamless acrylic 5 x 5 x 5 cm unibody enclosure containing one 6 mm diameter Tungsten Sphere located at the central axis of the main cross-hairs and used for measuring isocenter accuracy. Displayed on 3 faces are 3 mm offset laser alignment marks, which are used for couch position accuracy. Test end-to-end IGRT positioning accuracy for clinical treatment setups with 0.1 mm precision in less than 5 minutes.

- ▶ Perform test by aligning the phantom containing radiopaque sphere with IGRT system, then capturing radiation field exposures with film or EPID
- ▶ Use the test results to determine end-to-end accuracy for frameless SRS, SBRT, and IGRT treatments

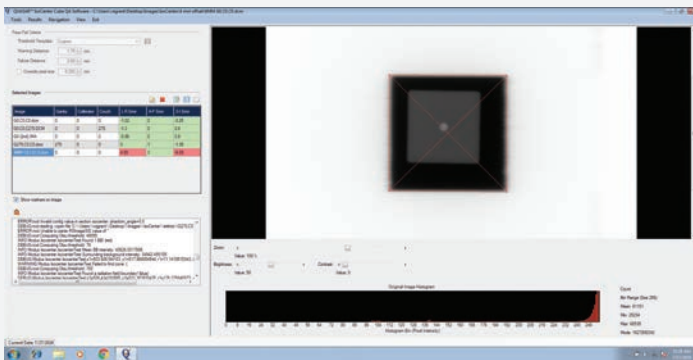
WINSTON-LUTZ ANALYSIS SOFTWARE

Analyze EPID radiation field exposures with the automated Analysis Software. Check various beam shaping devices, report left/right, superior/inferior and anterior/posterior errors at configurable gantry, collimator and table angles.

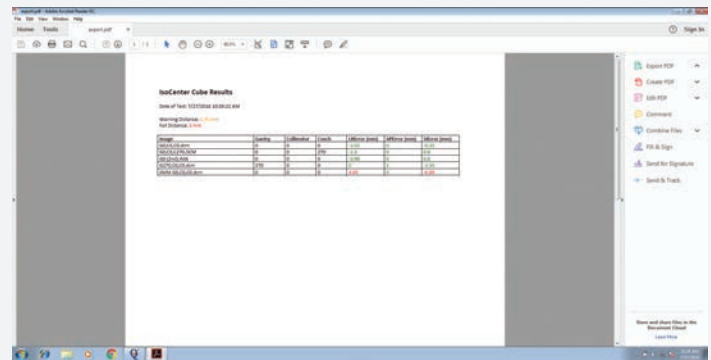
Ability to test IGRT accuracy with a minimum of two gantry angle images. The user sets the warning and fail levels, and can visually see pass (green), warning (yellow), and fail (red) results.



Above: Screenshot of the QUASAR™ IsoCenter Cube analysis software displaying pass (green) results



Above: Screenshot of the QUASAR™ IsoCenter Cube analysis software displaying fail (red) results



Above: Screenshot of the QUASAR™ IsoCenter Cube analysis software displaying pass (green), fail (red) results

MINIMUM TECHNICAL REQUIREMENTS

- ▶ **Operating System:** Windows 7 or higher
- ▶ **Processor:** Intel Core™ i7 or better
- ▶ **Hard Disk Space:** 5 GB minimum (64-bit)
- ▶ **RAM:** 1 gigabyte (GB) or more
- ▶ **Screen Resolution:** 1280 x 1024 pixels or higher
- ▶ **Graphics Card:** Intel HD Integrated Graphics or better

SPECIFICATIONS

- ▶ Acrylic cube; 5 x 5 x 5 cm with no-slip rubber base
- ▶ Tungsten sphere at isocenter 6mm diameter
- ▶ Laser alignment marks on cube
- ▶ Offset laser alignment marks on 3 faces

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Modus QA

1570 North Routledge Park,
London, Ontario Canada N6H 5L6

[e] info@modusQA.com
[w] www.modusQA.com

Toll Free: +1 (866) 862-9682 (North America)
Phone: +1 (519) 438-2409
Fax: +1 (519) 643-0127

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