

Delta⁴ Family for Accuray and TomoTherapy Platform



Images and data courtesy of The University of Wisconsin - Madison

Verify your patient plan in less time than ever with the highest accuracy

The Delta⁴ Phantom+ is an innovative device for addressing volumetric delivery quality assurance for highly conformal treatments like those performed with TomoTherapy® and Radixact® Treatment Systems. The dual orthogonal detector planes and isotropic detector response enhance the applicability of the Delta⁴ system for helical treatments. The Delta⁴ Phantom+ is a unique volumetric dosimetry system, and the only system that measures a true 3D dose distribution over continuous 360-degree rotations.

Utilizing the Delta⁴ HexaMotion with 6 degrees of freedom is an ideal solution for the Radixact Treatment System with Synchrony® real-time motion tracking and correction. The Delta⁴ Phantom+ addresses volumetric quality assurance for the Radixact with Synchrony by using a custom phantom quarter to house the Accuray Ball Cube II. Together with the Delta⁴ Hexamotion, this system can be used for end to end quality assurance of the Synchrony real-time tracking and motion synchronization feature for moving targets.

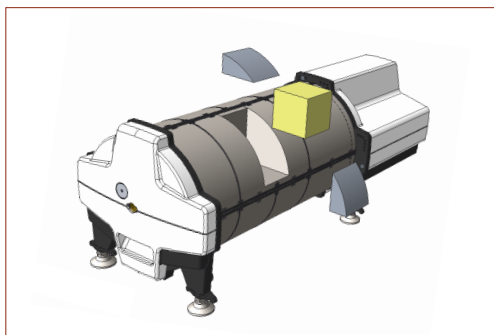
The system is placed on the couch to measure the same geometric points throughout the delivery. The complete delivery sequence is acquired with only one measurement and is immediately available for analysis. The measured dose is compared to the calculated data from the Treatment Planning System. With customizable acceptance criteria and instant display of results, it is easy to see if the verification of the delivery has passed or failed.

Delta⁴
by ScandiDos

Innovative and Efficient QA
www.delta4family.com



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Delta⁴ Phantom+ with Accuray Ball Cube II

Delta⁴ Phantom+ Technical Specifications:

Cylinder Phantom

Material PMMA; optional Plastic Water DT®

Diameter 22 cm

Length 40 cm **Total Length** 71 cm **Total Weight** 27 kg

Ion chamber insert in cylinder Inserts for common cylindrical ion chambers available

Detectors

Type p-Si

Total number 1069

Layout Distributed on coronal and sagittal plane

Max field size 20 x 38 cm² (when merging two consecutive measurements, otherwise 20 x 20 cm²)

Distance between detectors

Central area (6 x 6cm²) 5 mm (or 2.5 mm in longitudinal direction with merging of two consecutive measurements)

Outer area 10 mm

Size (radial x axial) 1 x 0.05mm³ = 0,00004 cm³

Detector stability (6MV beam) Better than 0.1% per kGy, typically 0.04%/kGy

Wireless Communication

Wireless data communication protocol Wi-Fi 802.11n

Battery operation capacity >4 hours Rechargeable Li-ion battery - power supply for charging included

Accuray Compatibility

Fully compatible with TomoTherapy® and Radixact® solutions

Trolley provides easy and ergonomical handling of the system eliminating heavy lifts



Delta⁴ Phantom+ Trolley

Delta⁴ HexaMotion Technical Specifications:

Positioning accuracy

Better than 0.5 mm

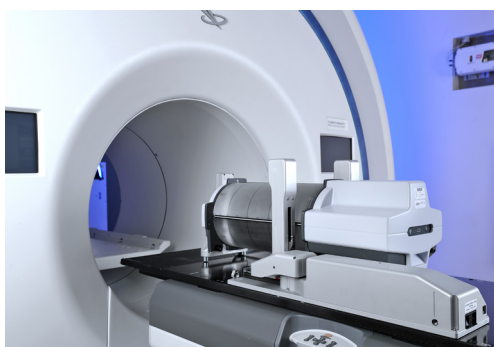
Movement range

X: +/- 40 mm, Y: +/- 40 mm, Z: +/- 40 mm

Roll: +/- 10° @ origin, Tilt: +3°/-6° @ origin

Total weight 17 kg

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Delta⁴ Phantom+ HexaMotion

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