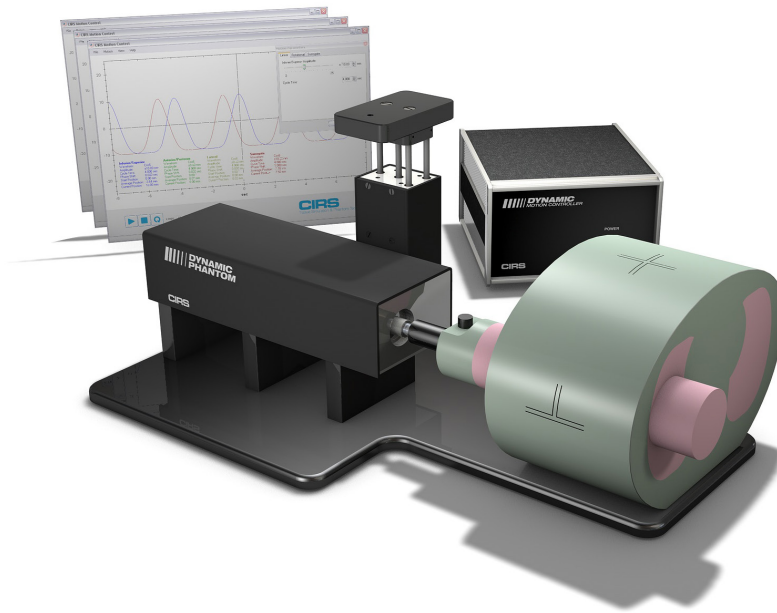# Dynamic Thorax Phantom

IMAGE ACQUISITION • TREATMENT PLANNING • DOSE DELIVERY

The CIRS Dynamic Thorax Phantom is a precision instrument for investigating and minimizing the impact of tumor motion inside the lung. It provides known, accurate and repeatable three-dimensional target motion inside a tissue equivalent phantom. It is designed for comprehensive analysis of image acquisition, planning and dose delivery in image-guided radiation therapy.

The phantom body represents an average human thorax in shape, proportion and composition. A lung equivalent rod containing a spherical target and or various detectors is inserted into the lung equivalent lobe of the phantom. The body is connected to a motion actuator box that induces three-dimensional target motion through linear translation and rotation of the lung equivalent rod. Motion of the rod itself is radiographically invisible due to its matching density with the surrounding material. The target and its motion, given its density difference, can be resolved.

Target and surrogate motion are independently controlled with CIRS Motion Control Software. The graphical user interface provides an unlimited variety of motions while simplifying the operation of the Dynamic Thorax Phantom to an intuitive level.

Features

- Complex 3D tumor motion within the lung
- Sub-millimeter accuracy and reproducibility
- Motion software enables different cycles, amplitudes and wave forms
- Tissue equivalent from 50 keV to 15 MeV
- Compatible with TLD, MOSFET, nanoDot™, Dose Gel, micro-chamber, PET/CT targets and film
- Surrogate breathing platform accommodates numerous gating devices

IGRT e2e SCAN PLAN LOCALIZE TREAT

深圳市展业达鸿科技有限公司
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Tissue Simulation & Phantom Technology

Dynamic Phantom
Motion Control Selection
(Thorax or Pelvis)

Graphical user interface
simplifies operation
of the Model 008A

Adjust motion amplitude, cycle
time and phase shift with pull
down menus and slider bars

Instantly Start, Stop,
Pause or Loop motion

Real-time display of target and
surrogate motion parameters

Research Mode to import
3D recorded waveforms

SPECIFICATIONS

OVERALL DIMENSIONS:	67 cm x 32 cm x 28 cm (26" x 13" x 11")
OVERALL WEIGHT:	17.2 kg (38 lb)
AMPLITUDE, IS:	± 25 mm
AMPLITUDE, AP/LR:	± 5 mm
AMPLITUDE, SURROGATE:	± 25 mm
MOTION ACCURACY:	± 0.1 mm
CYCLE TIME:	1 - ∞ (adjusted based on amplitude)
WAVEFORMS:	sin (t), $1-2\cos^4(t)$, $1-2\cos^6(t)$, sawtooth, sharkfin

Visit www.cirsinc.com for a detailed brochure and specifications.

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