

Dynamic Pelvis Phantom

Model 008P



IMAGE ACQUISITION • TREATMENT PLANNING • DOSE DELIVERY

The CIRS Dynamic Pelvis Phantom is a precision instrument for investigating and minimizing the impact of prostate motion inside the pelvis. It provides known, accurate and repeatable two-dimensional target motion inside a water-equivalent phantom. It is designed for end-to-end analysis of image acquisition, planning and dose delivery in image-guided radiation therapy.

The phantom body represents an average human pelvis in shape, proportion and composition. A water-equivalent cube containing a prostate gland and/or various detectors is inserted into the pelvic cavity of the phantom. The cube is connected to a motion actuator box that induces two-dimensional target motion through rotation of the cube insert. Motion of the cube itself is radiographically invisible due to its matching density with the surrounding material. The prostate and its motion, given its density difference, can be resolved.

Prostate motion is independently controlled with CIRS Motion Control Software. The graphical user interface provides an unlimited variety of optimized motion profiles while simplifying the operation of the Dynamic Pelvis Phantom to an intuitive level.

Features

- Complex prostate tumor motion within the pelvis
- Sub-millimeter accuracy and reproducibility
- Motion software enables different cycles, amplitudes and waveforms
- Tissue equivalent from 50 keV to 15 MeV
- Compatible with film, micro-chamber, and 3D dosimeters



CIRS

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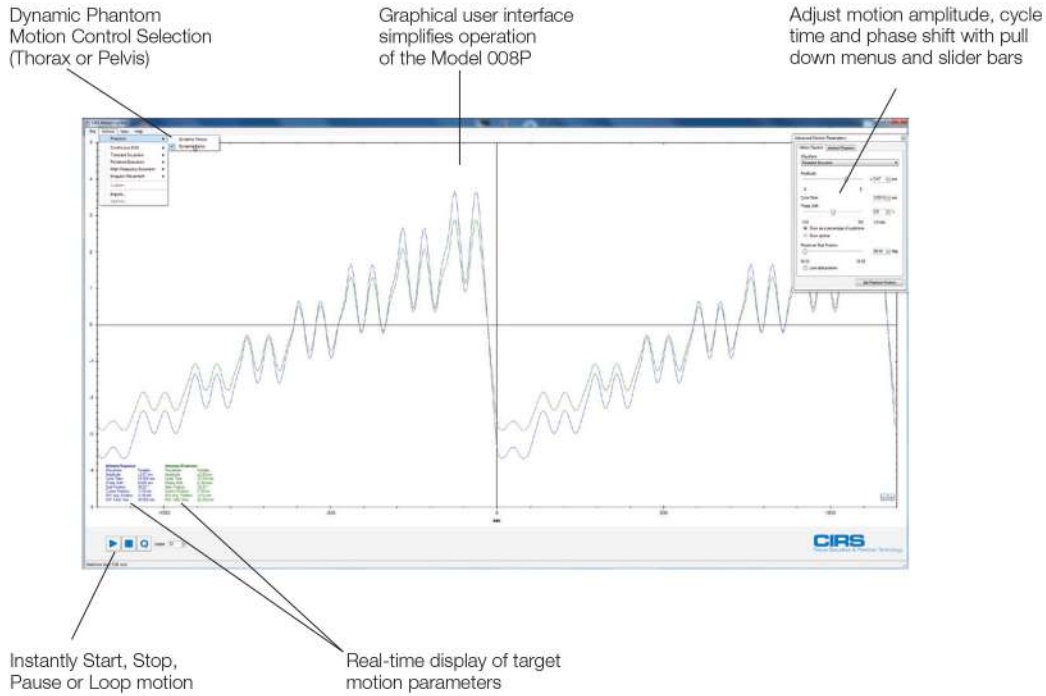
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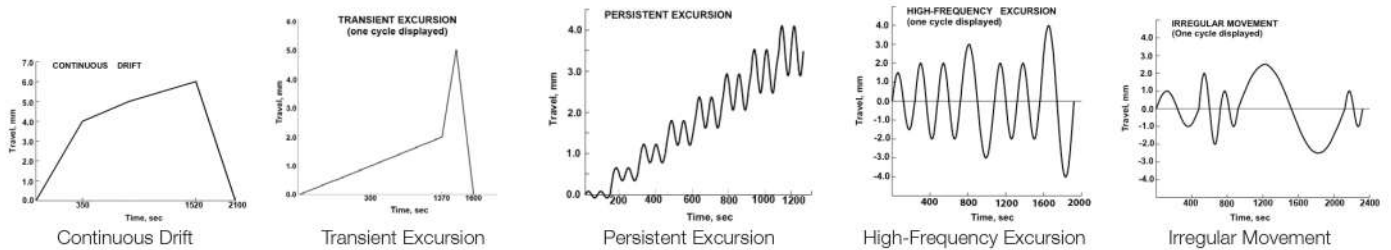


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Built-in, prostate-specific waveforms



SPECIFICATIONS

DIMENSIONS:	Overall: 67 cm x 32 cm x 28 cm (26" x 13" x 11") Pelvis: 18 cm x 30 cm x 20 cm (7" x 12" x 8")
WEIGHT:	Overall: 18.1 kg (40 lb) Pelvis: 8.8 kg (19.5 lb)
AMPLITUDE, IS:	± 5 mm
AMPLITUDE, AP:	± 5 mm
MOTION ACCURACY:	± 0.1 mm
CYCLE TIME:	1 - ∞ (adjusted based on amplitude)
BUILT-IN WAVEFORMS:	continuous drift, high-frequency excursion, transient excursion, persistent excursion, irregular movement

Contact CIRS for a detailed brochure and specifications.

REFERENCE:

Xie Y, Djajaputra D, King CR, et al. Intrafractional Motion of the Prostate During Hypofractionated Radiotherapy. *Int J Radiat Oncol Biol Phys.* 2008; 72(1): 236–246. doi:10.1016/j.ijrobp.2008.04.051.