

# Multi-Lesion Brain QA Phantom

Model 037



## MULTI-LESION SRS TREATMENT PLANNING QA IN BRAIN-EQUIVALENT PHANTOM

Our Multi-Lesion Brain QA Phantom (Model 037) provides a unique solution for fast, comprehensive film dosimetry quality assurance for single isocenter plans with multiple targets. The phantom may be used for thorough validation of multi-lesion treatment methods.

Our phantom is rectangular in shape with rounded corners to minimize CT artifacts and large enough in size to cover brain anatomy variations. Linear attenuation of simulated brain tissue is within 1% of real tissue from 50 keV to 15 MeV.

The Model 037 has two pairs of asymmetrical imbedded fiducial markers and a central fiducial split in half at the phantom isocenter to aid you during pre-irradiation imaging. You can also align the imaged fiducials (from a CBCT, ExacTrac®, or kV images) and compare them to the reference image of the phantom in order to make more accurate shifts of the phantom with the linear accelerator couch top.

The phantom receives radiochromic film to as many as 29 locations in 5mm increments. Pre-loaded polyester film sheets allow flexibility in film placement without affecting sensitive geometry. External grooves and marking on the phantom sides helps with easy film positioning at only desired locations to cover specific lesions. Film allows multiple planning target volumes (PTVs) to be reviewed individually.

CIRS offers pre-cut EBT3 film designed specifically to fit the Model 037.

Four assembly rods, each made of different materials, allows for orientation and registration to ExacTrac® systems.

### Features

- Receives up to 29 GafChromic films
- Allows dose measurements to multiple targets with a single delivery
- Alignment marks for repeatable set up with sub-millimeter accuracy
- Pre-loaded polyester sheets allow flexibility in number and location of films
- Accurate film registration markings for dose distribution to treatment plan verification

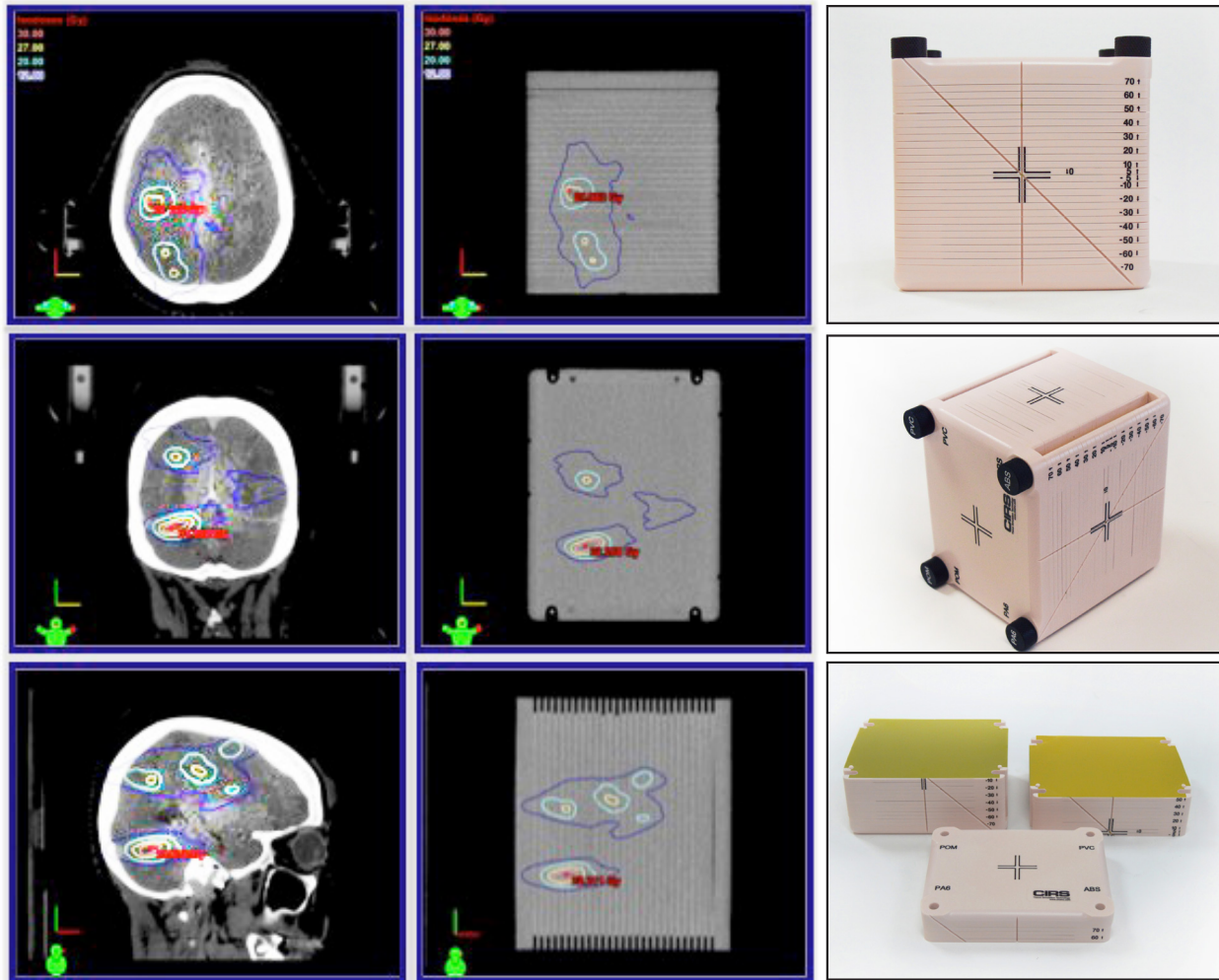
\*ExacTrac® is a registered trademark of Brainlab (Munich, DE)

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Tissue Simulation & Phantom Technology



Comparison of patient treatment plan (left) to Model 037 treatment plan (right).

Set up photos of Multi-Lesion Brain QA Phantom for SRS

**SPECIFICATIONS**

OVERALL DIMENSIONS	150 mm (W) x190 mm (H) x 170 mm (L)
WEIGHT	5 kg (11 lbs)
SLAB THICKNESS	Top and Bottom slabs: 15 mm Spacers: 4.7 mm
FILM DIMENSIONS	167mm x 150 mm
MATERIAL	Brain Equivalent Epoxy resin
POLYESTER SHEETS (PET)	29 pcs, 0.3 mm thick

**REFERENCES**

- Maurer J, Sintay B, Varchena V. SU-E-T-52: A New Device for Quality Assurance of a Single Isocenter Technique for the Simultaneous Treatment of Multiple Brain Metastases. Med Phys. 2015;42(6):3342.
- Maurer J, Liu H, Wiant D, Koch K, Manning M, Sintay B. SU-E-T-197: Comparing Quality Assurance Strategies for Single Isocenter Treatments of Multiple Brain Metastases. Med Phys. 2015;42(6):3377.
- Maurer J, Sintay B, Manning M, Wiant D, Liu H. SU-F-T-510: Single Isocenter Radiosurgery for the Simultaneous Treatment of Multiple Brain Metastases: Volumetric Modulated Arc Therapy or Dynamic Conformal Arc? Med Phys. 2016; 43(6):3580.

**MODEL 037 INCLUDES**

QTY	COMPONENT DESCRIPTION
1	Multi-Lesion Brain QA Phantom
1	User Guide
1	Foam-Lined Carry Case
-	60-Month Warranty

**OPTIONAL ACCESSORIES**

PART NO.	COMPONENT DESCRIPTION
158200-07	Precision Cut EBT3 Film Kit for Model 037 (10 film inserts plus 30 calibration strips)

