

# Phantom Patient for Stereotactic End-to-End Verification

Model 038

**STEEV**  
STEREOTACTIC END-TO-END VERIFICATION



## HIGH FIDELITY SIMULATION FOR YOUR SRS PROGRAM

### SRS commissioning and treatment verification

Stereotactic Radiosurgery (SRS) necessitates a high degree of accuracy in target localization and dose delivery. Small errors can result in significant under treatment of portions of the tumor volume and overdose of nearby normal tissues. The CIRS Stereotactic End-to-End Verification Phantom (STEEV) provides a means to check all necessary steps of a treatment planning system — from diagnostic imaging with CT, MR and PET, to treatment plan verification..

### Accurate patient simulation

STEEV's anthropomorphic exterior allows for use of multiple positioning and fixation devices as used in clinical application. Internal details such as cortical and trabecular bone, brain, spinal cord, teeth, sinuses and trachea provide the most realistic clinical simulation to evaluate the challenging effects of complex intra- and extra-cranial anatomies. Geometric and organic target inserts provide means for comprehensive image QA,

geometric machine QA and TPS QA for increased confidence in system performance.

### Multi-modality Imaging

STEEV accommodates five interchangeable multi-modality inserts. These inserts come with a variety of internal targets and must be filled with MRI or PET compatible liquids. Five external MRI/ CT fiducials enable additional alignment and distortion evaluation along three orthogonal axes.

### Dose measurements at isocenter and off isocenter positions

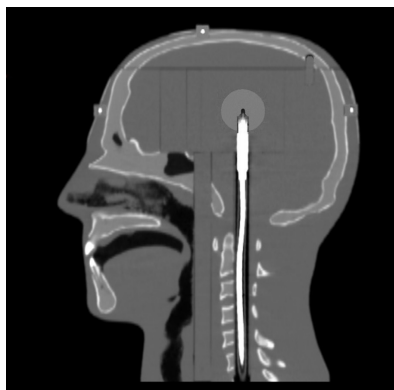
STEEV accommodates a variety of interchangeable tissue equivalent inserts suitable for small field dosimetry including: micro- and pinpoint ion chambers, film, MOSFET, TLD, OSL (nanoDot™\*) and 3D gel. When used in conjunction with the various imaging inserts, STEEV provides the most comprehensive end-to-end testing and QA solution for SRS systems.

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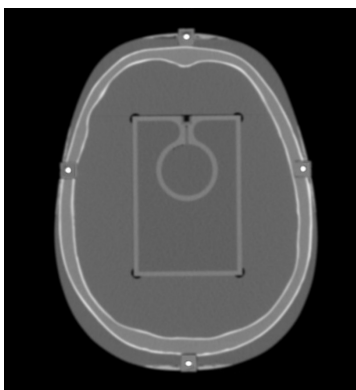
[WWW.CIRSINC.COM](http://WWW.CIRSINC.COM)

**CIRS**

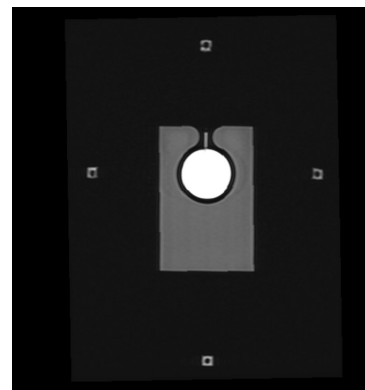
Tissue Simulation & Phantom Technology



Sagittal CT Recon of 038-03-CVXX-XX Ion chamber Dosimetry Insert inside the Phantom



Axial CT of 038-11 MRI/CT/PET Insert Inside the Phantom



Axial MRI TSE-T1 of 038-11 MRI/CT/PET Insert Inside the phantom

SPECIFICATIONS

MODEL 038 INCLUDES

PART NO.	DESCRIPTION
038	Stereotactic Radiosurgery Head
038-15	MRI/CT ISO Center rectangular insert
038-23	Brain Equivalent Spacer (63.4 x 63.4 x 10 mm)
038-24	Brain Equivalent Spacer (63.4 x 63.4 x 20 mm)
038-25	Brain Equivalent Spacer (63.4 x 63.4 x 63.4 mm)
-	Solid Ø 12.7 mm (posterior chamber access plug

PART NO.	DESCRIPTION
-	Solid Ø 12.7 mm anterior chamber access plug with MRI/CT fiducial
-	Neck Alignment Plate
-	Rubber Clamp
-	Foam-lined Case
-	User Guide
	60-Month Warranty

MODEL 038 OPTIONAL ACCESSORIES

QTY	PART NO.	DESCRIPTION
1	038-01	Shoulders (additional 100 mm width)
1	038-02	ABS Vacuum formed cradle
1	038-03-CVXX-XX	Ion Chamber Dosimetry Kit: (1) 63.5 mm Cube with Ø30 mm Spherical Target Cavity, (2) Ø12.7mm Sleeves for adapting Ion cavity, (1) Solid plug with Ø 2.5 mm aluminum oxide BB in ISO center, (1) Solid plug
1	038-04-CVXX-XX	Variable Ion Chamber Position Dosimetry Kit: (1) 63.5 mm Cube with cavity thru hole, (2) Ø12.7 mm Sleeves for adapting Ion cavity, (1) Solid cavity plug with Ø 2.5 mm aluminum oxide BB in ISO center, (1) Solid cavity plug, (1)Spacer plug set to accommodate cavity at different positions
1	038-05	Film Cube for Single Film Dosimetry with Ø30 mm target
1	038-06	TLD Dosimetry Cube
1	038-08	Multiple-OSL Dosimetry Target Insert
1	038-09	Electron Density Cube with Real Water Electron Density plug (Water Equivalent Material Surrounding Removable Ø 1" Vial)
1	038-10	Winston Lutz Cube with Centroid & Offset Ø5 mm targets
1	038-11	MRI/CT/PET rectangular insert with Ø30 mm target
1	038-12	MRI/CT/PET rectangular insert with 25 cc Organic target
1	038-13	MRI/CT/PET rectangular insert with 12.5 cc Organic target
1	038-14	MRI/CT/PET Spatial 3D Distortion rectangular insert
1	038-20	SRS Frame Support Cups, Set of 4
1	038-21	Film Stack
1	038-22	Gel Dosimetry Cassette (includes B6 Gel Container)
1	038-27	Single Slice Film Cube With Fiducials, 30mm Spherical Target & Ion Chamber for Model 038
1	038-29	Adapter for Model 038 STEEV and Leksell Frame G

PRECISION CUT EBT3 FILM FOR MODEL 038

PART NO.	DESCRIPTION
158200-09	Precision Cut EBT3 Film Kit for Model 038-05, 038-21, 002FC (Set of 25 inserts plus 6 calibration strips)
158200-28	Precision Cut EBT3 Film Kit for Model 038-27 (Set of 30 inserts plus 6 calibration strips)

