

# STEREOTACTIC DOSE VERIFICATION PHANTOM



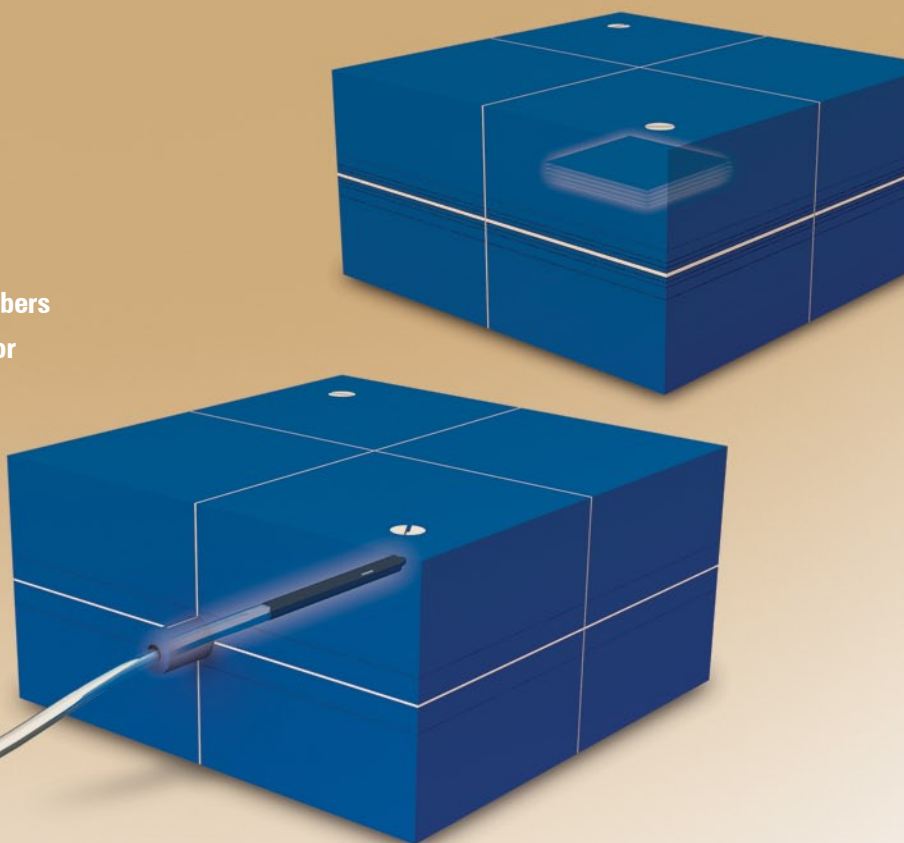
## VERSATILE COMMISSIONING

Dose measurements with film and ion chambers for commissioning treatment systems and for specific plan dose verification

**Stereotactic Dose Verification Phantom**  
Ion Chamber and Film Configurations shown



**Included ion chamber plugs**  
Model A16 Exradin Microchamber  
Model A19 Exradin Classic Farmer-type Chamber



### ● VERSATILE USE WITH ION CHAMBERS OR FILM

Film and ion chamber dose measurements are achieved in one water equivalent phantom designed specifically for stereotactic radiosurgery.

**Ion Chamber Measurements** - The 2 cm Blue Water ion chamber slab has a cavity which accommodates interchangeable ion chamber plugs, therefore one slab can accommodate several plugs drilled for different ion chambers. The ion chamber plug positions the ion chamber in the exact center of the phantom to facilitate repositioning and fast, accurate measurements. Two drilled ion chamber plugs and one solid plug are included with each phantom.

**Film Dosimetry Measurements** - Five water equivalent Blue Water slabs allow film to be positioned 2 mm apart for dose profile measurements of very small SRS targets. A cavity in each slab positions a 2.5 x 2.5 inch film in the exact center.

### ● EXACT POSITIONING INDICATORS

Laser alignment lines are provided to accurately position the phantom for CT planning scans and for treatment. Gold and lead fiducial markers are implanted throughout the phantom so the CT and TPS geometric accuracy can be tested. The gold fiducial markers are placed so they are non-coplanar and non linear allowing the Cyberknife® system to accurately detect an ion chambers central collecting volume.

### ● COMPACT SIZE FOR EASY HANDLING

The entire phantom is 20 x 20 x 10 cm in size.

### ● SRS DOSIMETRIC QA SLAB

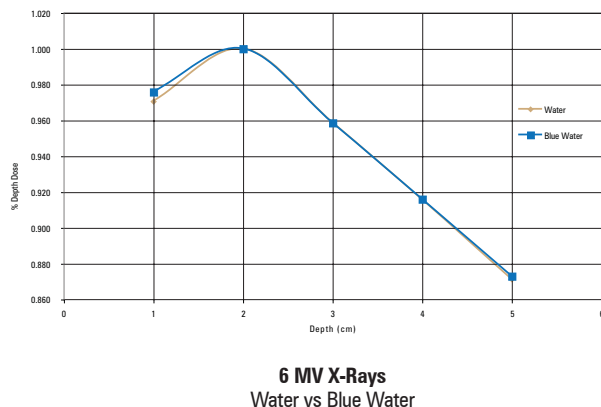
The optional SRS Dosimetric QA Slab provides complex geometric targets to evaluate the imaging avoidance and inclusion components of your treatment planning system and test the accuracy of the planned dose.



## Phantom Components and Accessories

### Build-up Slabs

- Two 4.0 cm thick Blue Water slabs are provided. One is positioned above and the other is positioned below the film or chamber dosimetry slab to provide adequate build-up.
- White fiducial lines are located on the X, Y, Z coordinates of the phantom
- Locking pins provide a clamping mechanism to prevent the phantom slabs from moving



### Ion Chamber Measurement Slab

- One 2.0 cm slab is provided with two ion chamber plugs drilled to accommodate the Exradin A16 and A19 Ion Chambers, and one solid ion chamber plug
- Additional ion chamber plugs for other ion chambers are also available

### Film Measurement Slab

- Five 20 x 20 x 0.2 cm slabs are provided which have a centered pocket for one pre-cut film. Two 20 x 20 x 0.5 cm slabs, together with the build-up slabs and locking pins, secure the film slabs to provide a secure handling environment.

### SRS Dosimetry QA Slab (Optional)

- This accessory contains target geometries, target densities, and known volumes for commissioning treatment planning systems. This compact phantom slab, 20 x 20 x 2 cm, provides the geometric tests needed to evaluate the imaging components of your treatment planning system. It replaces the dosimetry slabs centered in the phantom.
- The SRS Dosimetry QA Slab is an excellent phantom to evaluate the ability of your treatment planning system to accurately create DRR from CT scans.



## MAX 4000 Electrometer

- 1 fA resolution for excellent sensitivity and accuracy
- Automatic threshold detection detects the start and stop of radiation exposure to measure the prescribed dose. It also allows sequential measurements without manual reset.
- Ideal for use with small field size, low volume ion chambers

## Model A16 Exradin Microchamber

- Axially symmetric design
- Uniform isotropic response
- Designed to fit within a small 3.4 x 3.4 mm field size - ideal for radiosurgery



## STEREOTACTIC DOSE VERIFICATION PHANTOM SPECIFICATIONS

### MATERIAL DENSITIES - MAIN PHANTOM COMPONENTS REF 91250

Blue Water	1.09 g/cm <sup>3</sup>
Black delrin alignment posts and thumbscrews	1.43 g/cm <sup>3</sup>
Nylon 6/6 flathead screws	1.14 g/cm <sup>3</sup>

### MATERIAL DENSITIES - SRS DOSIMETRIC QA SLAB REF 70650

Blue Water	1.09 g/cm <sup>3</sup>
Black C552 target shapes	1.76 g/cm <sup>3</sup>
Trabecular bone plug	1.20 g/cm <sup>3</sup>
Cortical bone plug	1.93 g/cm <sup>3</sup>
Adipose plug	0.94 g/cm <sup>3</sup>

**DIMENSIONS** Height: 10.00 cm, 3.94 in Width: 20.00 cm, 7.87 in  
(Complete phantom) Length: 20.00 cm, 7.87 in Weight: 4.4 kg, 9.7 lbs

**DIMENSIONS** Height: 2.00 cm, 0.79 in Width: 20.00 cm, 7.87 in  
(Accessory slab only) Length: 20.00 cm, 7.87 in Weight: 0.9 kg, 2.0 lbs

### INCLUDED COMPONENTS

- (1) Bottom slab with imbedded gold markers, lead BBs, and integral alignment posts
- (1) Top slab with imbedded gold markers and lead BBs
- (1) 2.0 cm chamber slab with generic cavity hole
- (2) Ion chamber plugs (drilled for Exradin A19 and Exradin A16)
- (1) Solid ion chamber plug
- (2) 5.0 mm slabs
- (5) 2.0 mm slabs with recessed pockets to accept 2.500" x 2.500" film
- (2) Flathead nylon 6/6 screws
- (2) Black delrin thumbscrews
- (1) Flathead screwdriver

Specifications subject to change without notice.



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