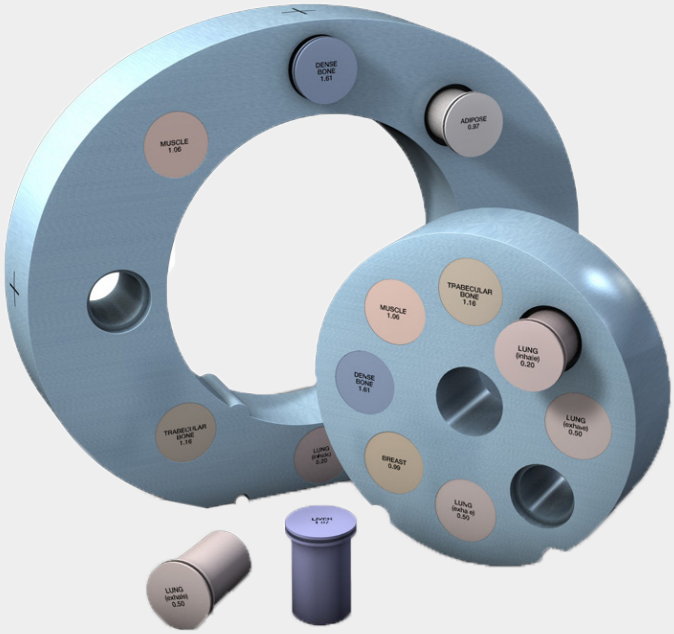
SUN NUCLEAR
A MIRION MEDICAL COMPANY

Electron Density Phantom

- Evaluate CT scan data
- Correct for inhomogeneities
- Document relationship between CT number and tissue electron density
- Simulate indicated tissue within the diagnostic energy range
- Quickly assess distance registration



Correlate CT Number and Tissue Electron Density

Because CT scans are used to correct for tissue inhomogeneities in radiation therapy treatment planning, it's important to obtain a precise relationship between CT number (in Hounsfield units) and electron densities. The CIRS Model 062M, Electron Density Phantom, enables precise correlation of CT data to electron density of various tissues, and is manufactured from CIRS tissue equivalent materials.

Tissue Equivalent Technology

The Model 062M consists of two nested disks made from Plastic Water®-LR. The disks can represent both head and abdomen configurations. Nine different tissue equivalent electron density plugs can be positioned at 17 locations within the scan field. Included is a vial plug that can be filled with any fluid. Optional distance marker plugs enable quick assessment of the CT scanner's distance measurement accuracy.

Improved Accuracy

Physicists performing treatment planning need accurate tools to evaluate CT scan data, correct for inhomogeneities and to document the relationship between CT number and tissue density. To improve the accuracy of your treatment planning, consider the CIRS Model 062 Electron Density Phantom.

Specifications

Dimensions	Electron Density Head Insert: Ø 180 mm x 50 mm (Ø x D) Electron Density Body without Head Insert: 330 mm x 270 mm x 50 mm (W x H x D)
Weight	Electron Density Head Insert: ≈ 0.950 kg (2 lbs.) Electron Density Body without Head Insert: ≈ 2.1 kg (4.7 lbs.)
Materials	Water and Tissue Equivalent Epoxy Resins

Items Included with CIRS Model 062M

Qty	Part No.	Description	Physical Density, g/cc	Electron Density, x 1023 electrons/ cc	RED (Relative to H2O)
1	062MA-01	Electron Density Head Insert	1.029	3.333	0.998
1	062MA-02	Electron Density Body without Head Insert	1.029	3.333	0.998
2	062A-04	Lung (Inhale) Equivalent Electron Density Plug	0.205	0.668	0.200
2	062A-05	Lung (Exhale) Equivalent Electron Density Plug	0.507	1.658	0.496
2	062A-06	Breast (50% Gland / 50% Adipose) Equivalent Electron Density Plug	0.99	3.261	0.976
2	062A-08	Solid Trabecular Bone (200 mg/cc HA) Equivalent Electron Density Plug	1.16	3.730	1.117
2	062A-09	Liver Equivalent Electron Density Plug	1.07	3.516	1.052
2	062A-10	Muscle Equivalent Electron Density Plug	1.06	3.483	1.043
2	062A-11	Adipose Equivalent Electron Density Plug	0.96	3.171	0.949
2	062A-15	Solid Dense Bone (800 mg/cc HA) Equivalent Electron Density Plug	1.53	4.862	1.456
1	062A-27	Solid Dense Bone (1250 mg/cc HA) Equivalent Electron Density Plug	1.82	5.663	1.695
1	062MA-39	Water-fillable Electron Density Plug, Ø 1" removable vial inside (Real water data provided)	1.00	3.340	1.000
1	062M-30	Set of 2 Feet for Model 062M			
1	062M-40	Soft Carry Case for Model 062M			
1		User Guide			

Optional Accessories

Part No.	Description	Physical Density, g/cc	Electron Density, x 1023 electrons/cc	RED (Relative to H2O)
062MA-07	800 mg/cc HA in Water Equivalent - Core Insert	1.53	4.862	1.456
062MA-12	Titanium Rod Core Insert	4.51	12.475	3.735
062MA-13	Distance Marker Insert	1.029	3.333	0.998
062MA-16	Water Equivalent Insert	1.029	3.333	0.998
062MA-17	1000 mg/cc HA in Water Equivalent - Core Insert	1.66	5.243	1.570
062MA-18	1250 mg/cc HA in Water Equivalent - Core Insert	1.82	5.663	1.695
062MA-19	ICRU Cortical Bone Equivalent Core Insert	1.91	5.915	1.771
062MA-20	1500 mg/cc HA in Water Equivalent - Core Insert	1.99	6.134	1.837
062MA-21	1750 mg/cc HA in Water Equivalent - Core Insert	2.15	6.600	1.976
062A-26	Solid Dense Bone (1000 mg/cc HA) Equivalent Plug	1.66	5.243	1.570
062A-28	Solid Dense Bone (1500 mg/cc HA) Equivalent Plug	1.99	6.134	1.837
062A-29	Solid Dense Bone (1750 mg/cc HA) Equivalent Plug	2.15	6.600	1.976