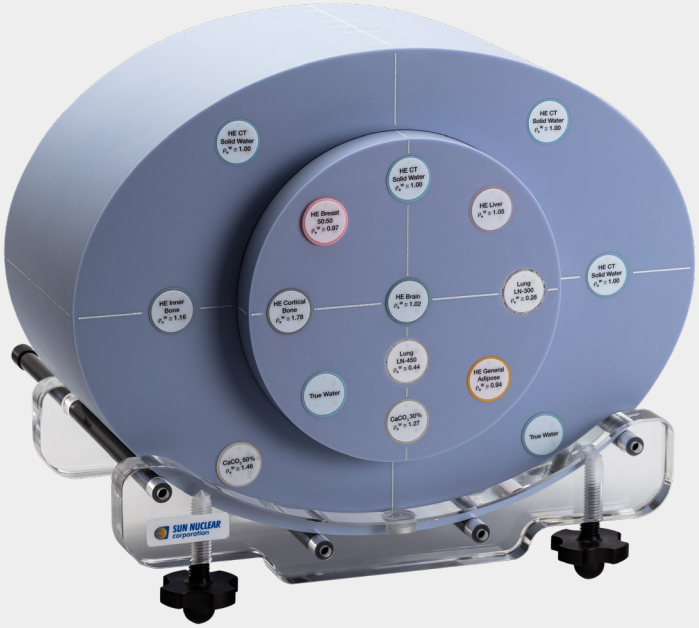
SUN NUCLEAR corporation

Advanced Electron Density Phantom

Tissue-Equivalent CT-to-Electron Density Calibration



- Meets medical standards for human tissue mimicking materials: ICRU-44 and ICRP
- Expanded phantom size for wide beam systems
- CT-to-density table automation with patent-pending rod markers and RapidCHECK™ software
- Compatible with any ion chamber

Accurately converting CT values to HU or electron density values plays an important role in transitioning from diagnosis to a specific treatment protocol. With the Advanced Electron Density Phantom, ICRU-44 matched tissue equivalence, automation and smart design all serve to remove uncertainties from your energy conversions.

Our materials are manufactured to meet medical standards for human tissue densities.

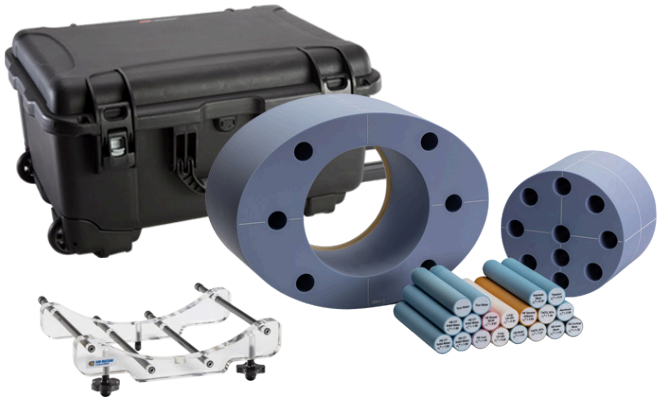
Workflow Automation with RapidCHECK™

Our patent-pending rod markers uniquely identify each material during the CT scan. This enables automated CT-to-density analysis, saving valuable time and reducing risk of error. Using RapidCHECK™ software to automatically find and identify the material of each rod streamlines the CT-to-electron density calibration.

Get results immediately. Load data. Get analysis. Print a report. Track changes over time. If issues are detected, easily review prior scans, analyze trends, and investigate anomalous results.

Features and Benefits

- Expanded Size
  - Extends 16.5 cm in the superior/inferior direction
  - Full-length 16.5 cm rods, not just 5 cm
  - Oblate-shaped, 40 cm wide by 30 cm high
  - Removable 20 cm head section
  - Increases to 26.5 cm in length with optional extension plates
- Proven Gammex® Technologies
  - Constructed from zero HU CT Solid Water® HE
  - Tissue Mimicking Materials developed in accordance with ICRU-44 and ICRP specifications
- Automation
  - Patent-pending rod markers uniquely identify each material in a CT scan
  - Automatically generate CT-to-density tables with RapidCHECK™ software support
  - Rod markers remove risk of misplaced rods, rotated phantoms, and incorrect selection of ROIs
- Ease of Use
  - Single-pour, no-drop design simplifies transport and setup
  - Self-aligning rods and sections lie flush for fast and reliable positioning
  - Custom wheeled case and deluxe stand included
  - Compatible with any ion chamber. Upon ordering please specify which ion chamber you intend to use.



[1] American Association of Physicists in Medicine Radiation Therapy Committee Task Group 53: Quality Assurance for Clinical Radiotherapy Treatment Planning

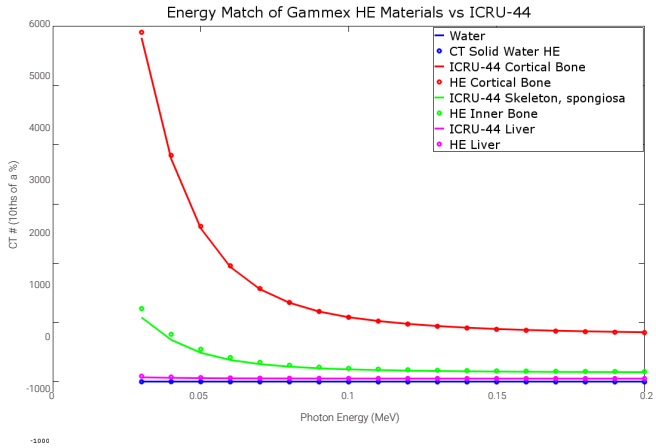
[2] IAEA TECDOC-1583. Commissioning of Radiotherapy Treatment Planning Systems: Testing for Typical External Beam Treatment Techniques

Specifications

In-plane Dimensions:	40.0 cm (15.7 in) x 30.0 cm (11.8 in)
Depth:	16.5 cm (6.3 in), up to 26.5 cm (10.2 in) with optional extension plates
Diameter of Removable Head Section:	20.0 cm (7.87 in)
Material:	HE Energy-Matched CT Solid Water®
Interchangeable Inserts:	14 solid inserts plus 2 true water containers
Optional inserts include:	Aluminum, Stainless Steel, Titanium
Optional Accessories:	Extension plates Ion Chamber conversion rod
Weight:	15.5 kg (34.1 lbs)
Case:	Wheeled case is included
Stand:	Stand is included

Standard Inserts

Material	Physical Density (g/cm3)	Electron Density Relative to Water
455 Lung LN-300	0.29	0.28
485 Lung LN-450	0.45	0.44
1553 HE Gen Adipose	0.96	0.94
1454 HE Breast 50:50	0.98	0.97
4 - 1451 HE CT Solid Water® Inserts	1.02	1.00
1481 HE Brain	1.05	1.02
1482 HE Liver	1.08	1.05
1456 HE Inner Bone	1.21	1.16
484 CB2 + 30% CaCO3:	1.33	1.27
480 CB2 + 50% CaCO3	1.56	1.46
1450 HE Cortical Bone	1.93	1.78
2 - True Water Inserts	-1.000-	-1.000-



Gammex materials match the density characteristics of ICRU-44 materials **AND** their energy dependencies.