

Comprehensive Electron Density Phantom

The Comprehensive Electron Density Phantom (QRM-C-EDP) is intended to create a grey value to electron density table for treatment plans (IVDT - Image Value Density Table) in Radiation Therapy.

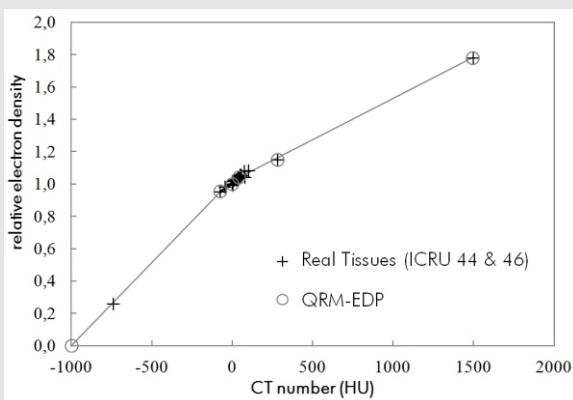
The Comprehensive-EDP consists of a water equivalent body-section and a replaceable or stand-alone head-section. The dimensions are adapted to the crosssection of a human adult body (w 350 mm x h 250 mm, l 150 mm and for the head insert w 160 mm diameter, l 150 mm) with 16 holes (d 20 mm) for replaceable electron density inserts.

The set includes 16 ICRU conformal tissue-equivalent electron density rods (e.g. water, muscle, adipose, liver, blood, bone, lung, breast, etc.).

It is designed for the use in computed tomography (CT) scanners for treatment planning systems (TPS), but can also be used in diagnostic CT imaging (e.g. Multi-Energy CT).

All tissue-equivalent materials represent the real human tissue regarding its physical and electron density according to the ICRU Report 44 and 46.

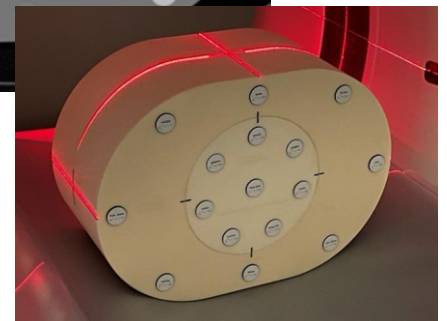
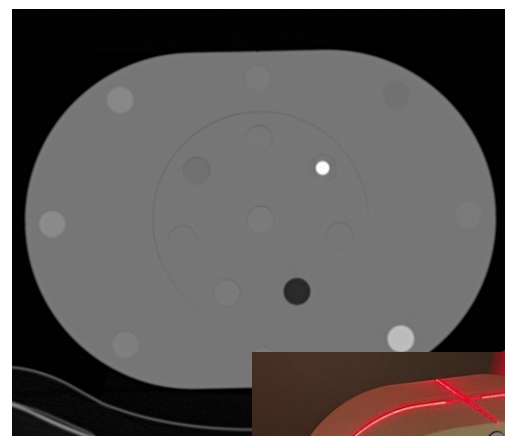
Particularly in the higher density range (bone), this is the first phantom that provides realistic tissue simulation and values.



Electron density vs. HU (at 120 kVp)



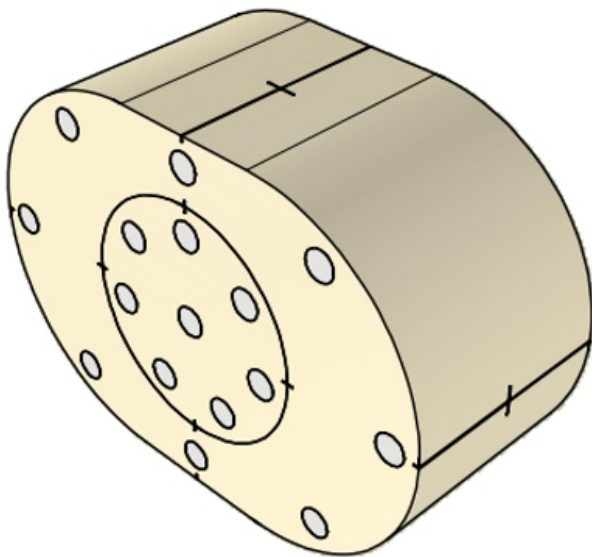
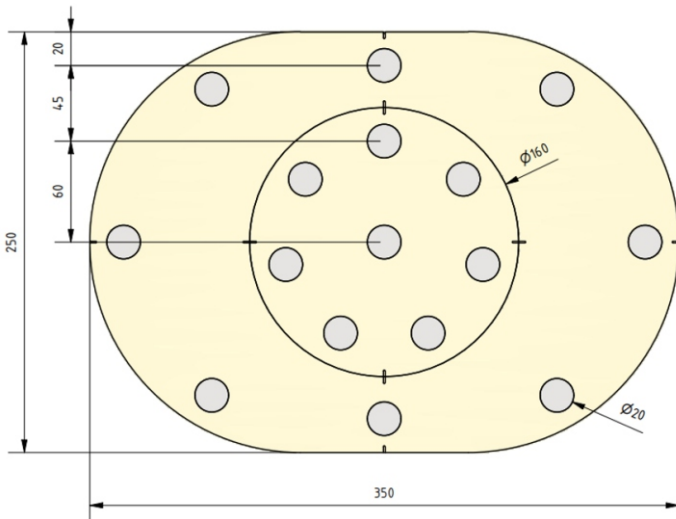
Comprehensive Electron Density Phantom (QRM-C-EDP)



QRM-Comprehensive -EDP with different tissue equivalent rods



Comprehensive Electron Density Phantom



Specifications

Body:

Phantom dimension: 250 mm x 350 mm
 Phantom length: 150 mm
 Holes: 8 pcs., 20 mm diameter

Head insert:

Phantom diameter: 160 mm
 Phantom length: 150 mm
 Holes: 8 pcs., 20 mm diameter

Tissue equivalent rods:

Diameter: 20 mm
 Length: 150 mm

Phantom weight: 6.0 kg
 Material: Water equivalent (CT_{WATER}[®])
 app. 0 ± 5 HU (at 80-140 kV)

The phantom includes the following 16 inserts:

- CT_{WATER}[®] (2 pcs.)
- ICRU Muscle
- ICRU Adipose
- ICRU Liver
- ICRU Brain
- ICRU Blood
- ICRU Breast (50/50)
- ICRU Cortical Bone
- ICRU Spongy Bone
- ICRU Lung (inflated)
- ICRU Lung (deflated)
- Bone HA100
- Bone HA200
- Bone HA800
- PE-HD

The phantom comes with a protocol displaying:
 Physical density, electron density, electron density relative to water, effective Z (other values are optional)

Other ICRU tissue equivalent materials as well as different metal inserts are optionally available. Please contact: