

**Unibody
Structure**

Large field MRI distortion phantom with embedded 3D grid for ease of alignment, with superior fluid filling / emptying facility

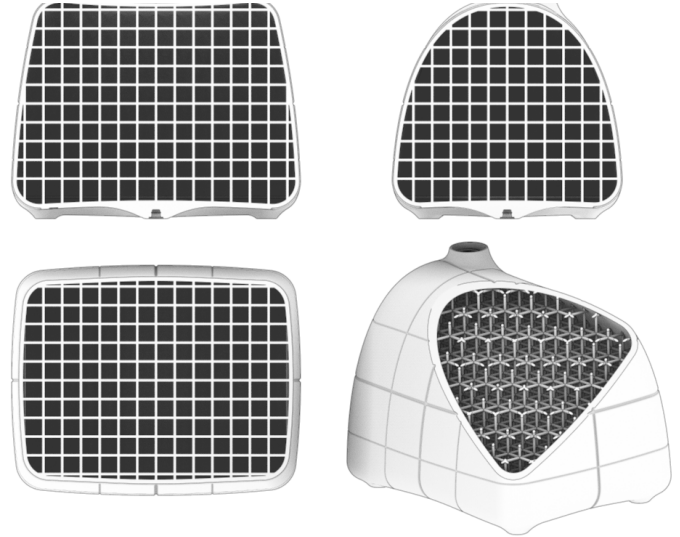
dPhantom

- Robust & affordable
- Enhanced accuracy
- Leak-free unibody nylon structure



Identifying Image Distortions

Magnetic Resonance Imaging (MRI) offers high soft-tissue contrast with significant potential utility within Radiation Oncology, particularly associated with delineation of targets and organs at risk, along with image guidance. It is prone however to geometric distortions related to both static field inhomogeneities and gradient field non-linearity. The dPhantom has been designed and created to facilitate high accuracy QC procedures associated with MRI Distortion. It may be filled with an appropriate fluid for MRI, as well as CT-imaged without fluid to facilitate image-registration assessment

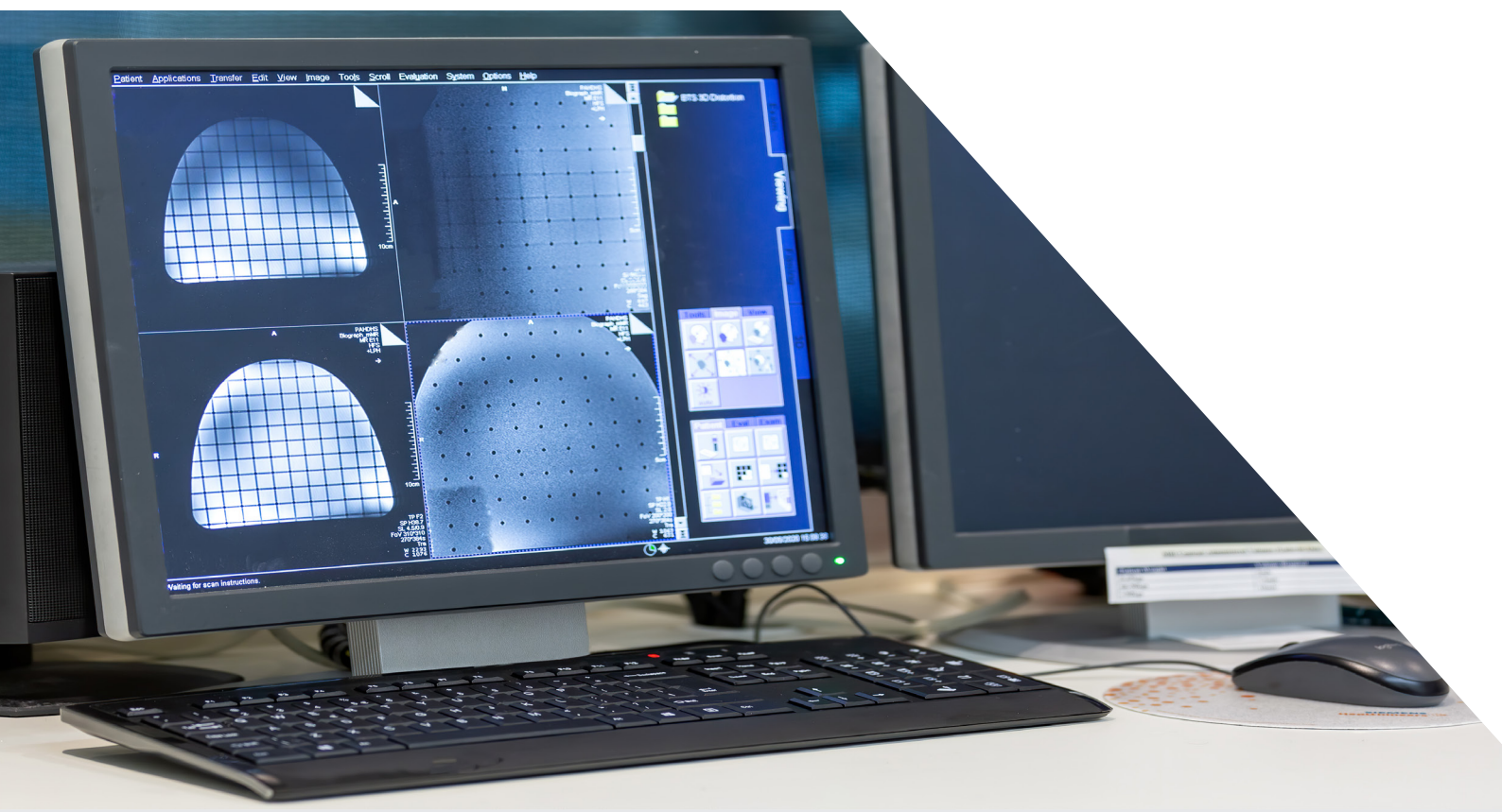


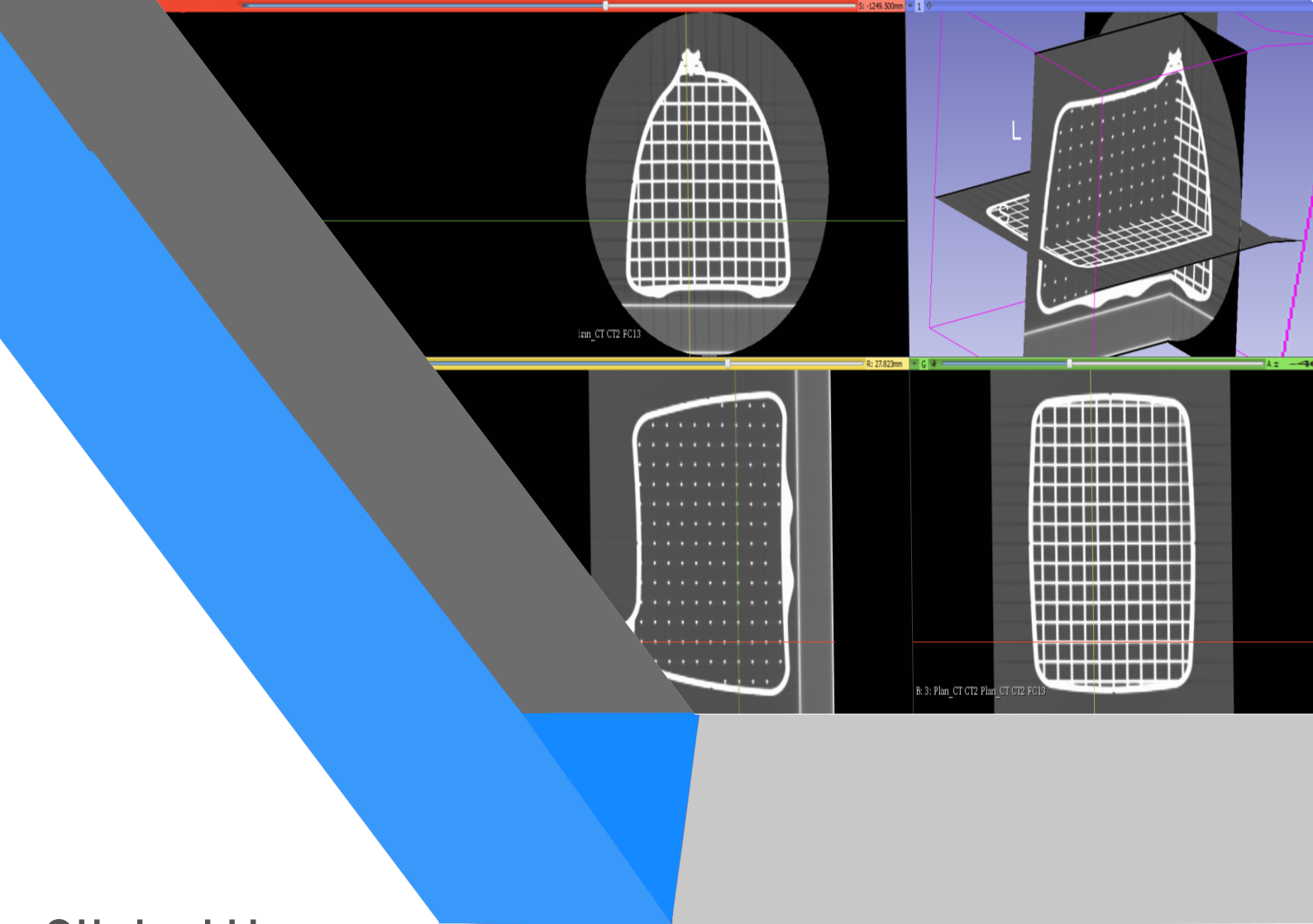
Ergonomic design

The unique leak-proof unibody nylon construction features a precise internal orthogonal 3 dimensional lattice. When imaged, the grid like structure provides excellent image contrast for effective distortion identification. The dPhantom can be filled with fluids promoting background signal generation to better simulate distortions due to magnetic susceptibility and chemical shifts. The dPhantom measures 350mm long, 250mm wide and 250mm high, and the form emulates the curvature of a human torso. The ergonomic free-form design eliminates sharp corners or edges and is easily lifted and carried.

Affordable and Durable

Thanks to the unique 3D One manufacturing process, the dPhantom cost is over 50% cheaper than its main competitors. It is also more durable than other existing MRI distortion phantom technology and has been tested in the toughest conditions allowing us to guarantee the dPhantom leak-free and shatter resistant.





Clinical Use

Indexing grooves on the dPhantom's surface allow the device to be accurately located in all three orthogonal axes utilising the MRI scanner's laser-alignment crosshairs.

The dPhantom is supported by 5 rubberised feet and is designed to sit securely on both flat and curved gantry tables. The feet combine incredible durability with non-slip qualities.

Fill and drain caps are located at either end of the dPhantom's concaved top surface to encourage laminar flow and to not impede centreline images. When completely filled, the internal shape purges all trapped air resulting in no air voids. The base of the dPhantom is ergonomically designed to facilitate easy lifting and maneuvering.

The nylon construction is incredibly durable and is less prone to stress fractures than other common materials such as PMMA (Acrylic). The surface comprises of compounding curves to effectively distribute internal forces and protect the precise geometry of the internal lattice.

dPhantom Unique Features



Unibody Design



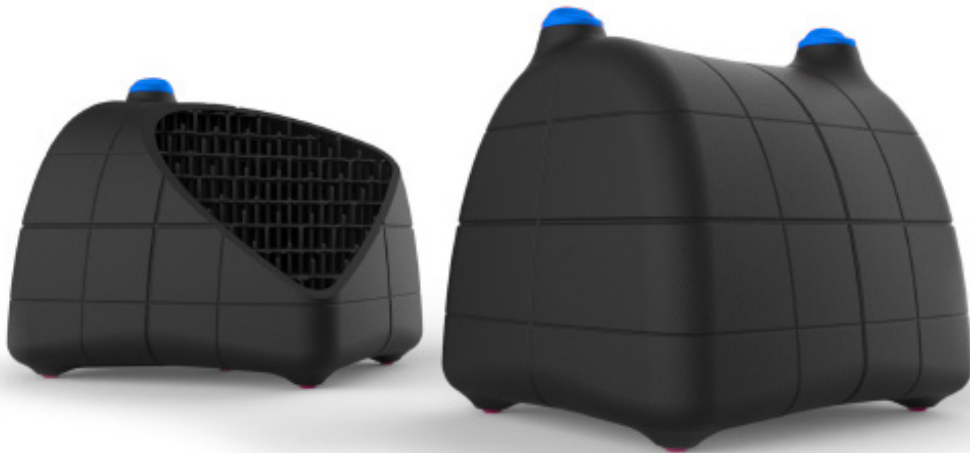
Ergonomic Design for ease of handling



Offset filler/empty caps to facilitate unimpeded orthodic imaging



Laser Alignment grooves in all three orthodonal planes



SPECIFICATIONS



Overall Dimensions

L=350mm x W=250mm x H=250mm



Lattice Dimensions

Rod Dia = 3mm, Grid Spacing = 20mm



Material

Nylon (PA12), Density = 1.01g/cm³



Fluid Volume

10L Approx.



Dry Weight

2.4KG Approx.



Wet Weight

12.4KG Approx.

ARTG registration no: 337662



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Our unique Orders Portal <https://3d1orders.com.au/> allows our registered clients to place an order for a dPhantom.