

# Micro-CT Multi Disk

## QRM-MicroCT-MD

The MicroCT Multi Disk Phantom is designed to test cone beam artifacts from Micro-CT scanners caused by reconstruction algorithms.

The MicroCT Multi Disk Phantom (after Defrise) has long been well established as the test object for demonstrating artefacts occurred by all kind of approximate reconstruction algorithms. The QRM-MicroCT-MD phantom after Defrise consists of eight high-density circular disks equally spaced at 3 mm apart parallel to the axis of rotation. These disks are separated by low-density disks showing up as darker material. The phantom is completed on either side by 10 mm of PMMA.

### Specifications

Phantom size:

diameter ..... 20 mm  
length ..... 48.5 mm

Phantom weight ..... 19 g

High-density disk:

diameter ..... 20 mm  
thickness/mm ..... 1 +0.1 /+ 0.05  
density ..... 1.38 g/cm<sup>3</sup>

Low-density disk:

diameter ..... 20 mm  
thickness/mm ..... 3 0/+ 0.05  
density ..... 1.18 g/cm<sup>3</sup>

Flanging outer cylinders:

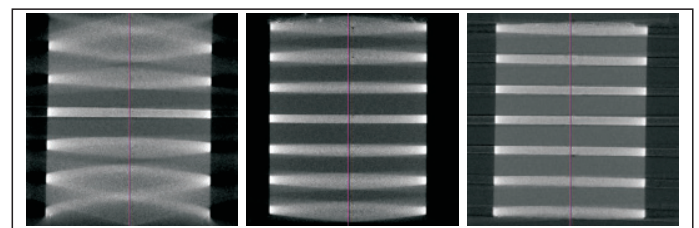
material ..... pmma  
thickness ..... 10 mm

### References:

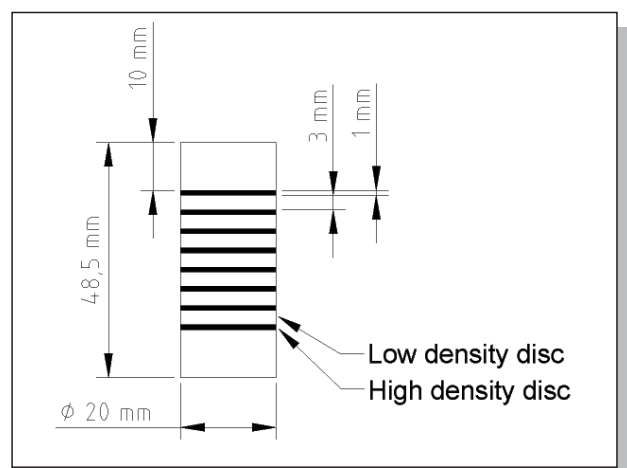
Feldkamp L. A., Davis L.C., Kress, J. W.:  
Practical cone-beam algorithm, J. Opt. Soc. Am. A6  
(1984) 612-619



Micro-CT Multi Disk (after Defrise).



Reconstructions at 30, 11 and 5 degree.



Dimensions of the phantom.