

# D100 - 3D Spatial Resolution Insert

NEW  
PHANTOM  
2010

## QRM-D100-3DSR

The D100-3DSR provides the opportunity to optimize collimation, pitch value and image reconstruction to achieve isotropic spatial resolution in all types of clinical applications.

The high-contrast spatial resolution D100 insert visualizes the impact of collimation, slice width, pitch and image reconstruction algorithms. The test pattern is a series of drilled holes with varying diameter and spacing from 4.0 mm down to 0.4 mm (table 1) allowing for an order of magnitude in spatial frequency.

With spiral/helical CT, evaluating both axial images and coronal reformations, spatial 3D resolution can be tested by a single scan. The D100-3DSR insert fits excellent in our standard D100 phantoms as QRM-Thorax or QRM-Abdomen.

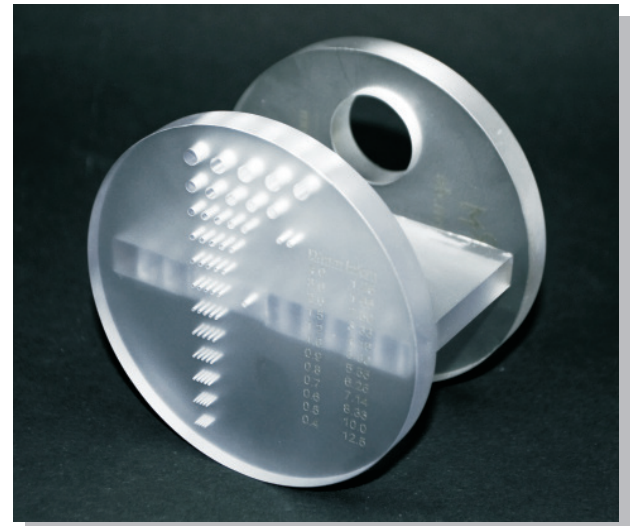
The table on the right summarizes the geometrical properties of the test pattern: diameter of cylindrical drill holes, spacing (space between two drilled holes), and resulting spatial frequency in lp/cm. Each line of the pattern consists of five holes. In order to ease localization, checkholes are placed in the vicinity of two lines.

### Specifications

- Two plates with test patterns perpendicular aligned:
- Ø 100 mm x 10 mm (xy)
  - 50 mm x 100 mm x 10 mm (z)

Between 70 and 100 HU at 120 kV.

Overall phantom diameter ..... 100 mm  
Overall phantom length ..... 70 mm  
Phantom weight ..... 220 g

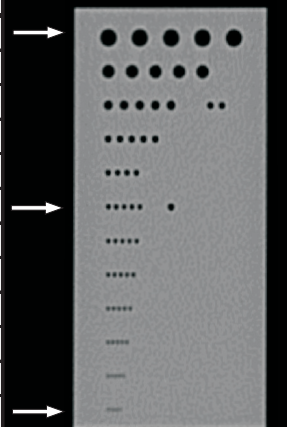


D100-3DSR



D100-3DSR in QRM-Thorax

Diameter/mm	lp/cm
4.0	1.25
3.0	1.66
2.0	2.50
1.5	3.33
1.2	4.16
1.0	5.00
0.9	5.55
0.8	6.25
0.7	7.14
0.6	8.33
0.5	10.0
0.4	12.5



geometrical properties of patterns