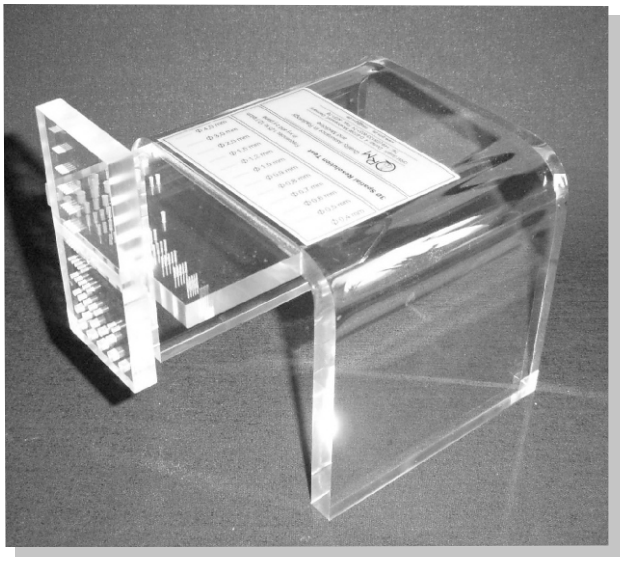
QRM A PTW COMPANY

QRM-3DSR

3D Spatial Resolution Phantom

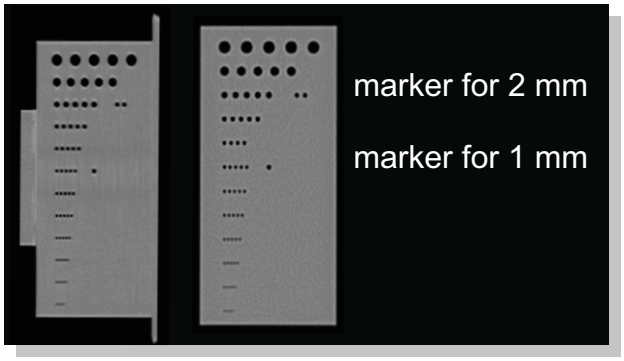
The 3DSR provides the opportunity to optimize collimation, pitch value and image reconstruction to achieve isotropic spatial resolution in all types of clinical applications.



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



Transversal MPR and frontal view

Specifications

App. 130 HU at 120 kV.

Size of plates with test patterns
50 mm x 100 mm x 10 mm

Overall phantom height ..... 172 mm
Overall phantom length ..... 190 mm
Phantom weight ..... 780 g

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