

# 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.

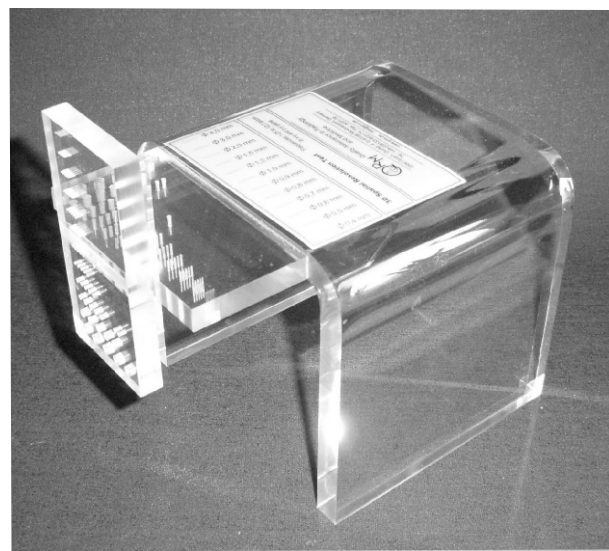
The table summarizes the geometrical properties of the test pattern: diameter of cylindrical drill holes, spacing (space between two drilled holes), and resulting spatial frequency in p/cm. Each line of the pattern consists of five holes. In order to ease localization, checkholes are placed in the vicinity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

## 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



*Transversal MPR and frontal view*

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	→