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# KS215T-1 Ultrasound Elastic Tissue Model

**Elastic imaging phantom**

1. KS215T-1 Ultrasonic elastic tissue-like phantom


## The composition and structure of the KS215T-1 series of ultrasonic elastic tissue-like phantom models are as follows:

(1) The entire series consists of 4 independent phantom models with the same background material but different targets;

(2) The side and bottom plates of the phantom models are both 10mm thick organic glass, and the top surface is covered with a composite film sound window;

(3) Two circular holes with a diameter of 36mm are opened on the bottom plate, and the openings are sealed with high-quality rubber for liquid injection maintenance;

(4) The size of the background material is: 210mm in length, 60mm in width, and 110mm in height (depth);

(5) The target is cylindrical, with 6 diameters, namely Φ3, Φ6, Φ9, Φ12, Φ16, and Φ20mm;

(6) The targets are arranged in two rows, with the axis located 30mm and 60mm below the sound window respectively, and the horizontal interval is uniformly 30mm. The starting center point of the target is 40mm away from the edge of the phantom model horizontally;

(7) The axis of the cylinder is along the 60mm direction of the background material, perpendicular to the front and rear shell plates, and parallel to the surface of the sound window, and they are parallel to each other.

## Acoustic-mechanical properties of the background and target materials

(1) At 23℃, the longitudinal wave speed of the background and target materials is (1540±10)m/s;

(2) At 23℃, the slope of the longitudinal wave attenuation coefficient of the background and target materials is (0.5±0.05)dB/(cm MHz);

(3) The background materials of all the models in the series are the same at 23℃, with a shear wave velocity of 2.89m/s±5% and a Young's modulus of 25kPa±10%;

(4) The shear wave velocities of the target materials of each model in the series are 1.63m/s±5%, 2.16m/s±5%, 3.87m/s±5%, 5.16m/s±5%, respectively, and the Young's moduli are 8kPa±10%, 14kPa±10%, 45kPa±10%, 80kPa±10%, respectively.