

KS215T-3 Ultrasound Elasticity Tissue-like Model

Basic Structure

The composition and structure of the KS215T-3 series ultrasonic elastic tissue-like body models are as follows:

- (1) The entire series consists of 5 independent body models with the same longitudinal acoustic properties but different shear wave velocities and Young's modulus of the tissue-like materials;
- (2) The body model shell is cylindrical, the side plates are made of ABS plastic, the bottom plate and support plate are made of plexiglass, the top surface is covered with a composite film sound window, and an integrated water tank is installed above the sound window;
- (3) There is a 36mm diameter round hole on the bottom plate, and the opening is sealed with high-quality rubber for liquid injection maintenance;
- (4) The size of the tissue-like material in the body model is: diameter 100mm, height (depth) 110mm.

Acoustic-mechanical properties of ultrasonic elastic tissue-like materials

- (1) At 23°C, the longitudinal sound velocity of all the tissue-like materials is (1540 ± 10) m/s;
- (2) At 23°C, the slope of the longitudinal sound attenuation coefficient of all the tissue-like materials is (0.5 ± 0.05) dB/(cm MHz)
- (3) The simulated tissue materials of each group, at 23°C, have shear wave velocities of 1.16 m/s \pm 5%, 2.00 m/s \pm 5%, 2.89 m/s \pm 5%, 3.87 m/s \pm 5%, 5.16 m/s \pm 5%, respectively. The Young's moduli are 4 kPa \pm 10%, 12 kPa \pm 10%, 25 kPa \pm 10%, 45 kPa \pm 10%, 80 kPa \pm 10%, respectively. All these values are calculated based on the measured shear wave velocities of the materials, under the assumption of a density of 1.02 g/cm³.

