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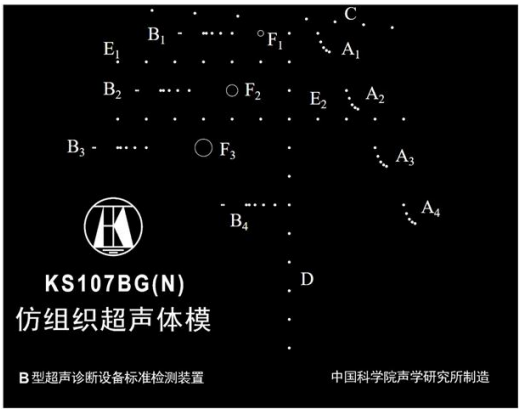
Standard Ultrasound Body Model for Ultrasound Diagnostic Instrument,Model KS107BG (N)

The KS107BG(N) type ultrasound body model is suitable for performance testing of B-ultrasound equipment with a working frequency above 5 MHz and generally not exceeding 15 MHz.

A. Technical Specifications

1. Sound velocity of TM material: (1540 ± 10) m/s (23 ± 3℃)
2. Slope of sound attenuation coefficient of TM material: (0.70 ± 0.05) dB/cm/MHz (23 ± 3℃)
3. Diameter of nylon target line: (0.3 ± 0.02) mm, (0.15 ± 0.02) mm
4. Position tolerance of nylon target line: ± 0.1 mm



The TM material is embedded with a group of line targets 12. Their distribution is shown in the attached figure. There are:

1. A1 - A4:

Axial resolution target groups. The top target line in each group is located at depths of 10, 30, 50, and 70 mm respectively. The vertical distance between the center of each target line in each group from top to bottom is 3, 2, 1, and 0.5 mm respectively, and the horizontal distance is 1 mm for each group.

2.B1 - B4:

Lateral resolution target groups, located at depths of 10, 30, 50, and 70 mm respectively, with the horizontal center distance of the target lines in each group being 0.5, 1, 2, 3, and 4 mm respectively. Among them, the two target lines with a center spacing of 0.5 mm are nylon monofilaments with a diameter of 0.15 mm.

3.C:

Blind zone target group. The vertical distances from the center of the target line to the sound window are 8, 7, 6, 5, 4, 3, and 2 mm respectively. The lateral spacing between the centers of adjacent target lines is 10 mm and 15 mm respectively.

4.D:

Vertical target group, containing 12 target lines. The center-to-center distances of adjacent lines are both 10 mm.

5.E1-E2:

Horizontal target group. E1 is located at a depth of 20 mm, and E2 is located at a depth of 40 mm. The center-to-center distances of adjacent lines are both 10 mm.

Simulated Lesion

The TM material was embedded with three cystic simulated lesions, all of which were cylindrical in shape. Their diameters were 2, 4, and 6 mm respectively. The axes of the cylinders were all parallel to the target line, and the centers of the axes were located at depths of 10, 30, and 50 mm respectively.