

Fetal Ultrasound Biometrics Phantom

Instruct and develop ultrasound examination techniques

The CIRS Model 068 Fetal Ultrasound Biometrics Phantom facilitates teaching and demonstration of fetal ultrasound examination techniques in a non-stressful situation.

A tissue equivalent full fetal model is suspended in a non-echoic, amniotic fluid-like environment.



Model 068

The phantom is housed in a rotatable cylinder with 2 fields of view. A variety of fetal/transducer orientations can be achieved for more challenging examinations. Transabdominal measurements of biparietal diameter (BPD), anterior/posterior diameter (APD), femur length,

abdominal circumference and crown to rump length can be taken. All anatomies are based on published biometric data at normal fetal growth rates for a gestational age of 21 weeks⁽¹⁾. This enables assessment of composite measurement techniques and biometric analysis programs common to most ultrasound scanners.

The phantom can also be used for 3D reconstructions, surface rendering and a variety of other applications. Optional carrying case is available.

Reference:

1. Hansmann, M. (1985) *Ultrasound Diagnosis in Obstetrics and Gynecology*, Springer, Berlin.

Features

- Complete external fetal anatomy and surrounding non-echoic medium
- Asymmetric head with upper portion of the skull
- Right and left brain lobes
- Lateral and third ventricles
- Right and left femoral shafts with distal epiphysis

Tissue Simulation & Phantom Technology

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Model 068 Specifications

HOUSING: PVC, ABS, vinyl
PHANTOM: proprietary gels

BACKGROUND MEDIUM
Attenuation: <0.02 dB/cm/MHz
Speed of Sound: 1515 m/sec
Contrast: anechoic

FETAL SOFT TISSUE
Attenuation:
0.5 dB/cm/MHz
Speed of Sound:
1540 m/sec
Contrast:
Similar to liver parenchyma

BONES
Attenuation:
0.5 dB/cm/MHz
Speed of Sound:
1540 m/sec
Contrast:
+ 9 dB relative to soft tissue

BRAIN
Attenuation:
0.5 dB/cm/MHz
Speed of Sound:
1540 m/sec
Contrast: same as soft tissue

VENTRICLES
Attenuation: < 0.07 dB/cm/MHz
Speed of Sound: 1520 m/sec
Contrast: anechoic

TARGET BIOMETRIC DIMENSIONS
BPD: 5.2 cm **APD:** 6.2 cm

Head Circumference:
18 cm
Femoral length: 3.8
(excluding distal epiphysis)

Abdominal Circumference:
17.5 cm (at AP fiducial mark)

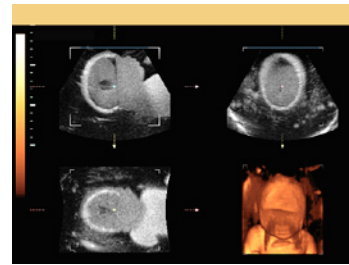
Crown to Rump Length:
22 cm (approximate)

Phantom Dimensions:
35 x 17 x 17 cm

Phantom Weight: 8 kg

WARRANTY: 1 Year

OPTIONAL
Custom fit high impact carry/storage case
Model 1550



Triplanar view of phantom with 3D reconstruction



Cross section measuring BPD.



Longitudinal measurements of femur length



Reference markers ensure repeatable measurements of AC and BPD.



Cross section demonstrating measurement of AC.