

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.

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

Reference:

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

Model 068 Specifications:

HOUSING: PVC, ABS, vinyl

PHANTOM: proprietary gels

BACKGROUND MEDIUM

Attenuation: <0.02 dB/cm-MHz
Speed of Sound: 1515 m/s
Contrast: anechoic

FETAL SOFT TISSUE

Attenuation: 0.5 dB/cm-MHz
Speed of Sound: 1540 m/s
Contrast: Similar to liver parenchyma

BONES

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

BRAIN

Attenuation: 0.5 dB/cm-MHz
Speed of Sound: 1520 m/s
Contrast: same as soft tissue

VENTRICLES

Attenuation: < 0.07 dB/cm-MHz
Speed of Sound: 1520 m/s
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)

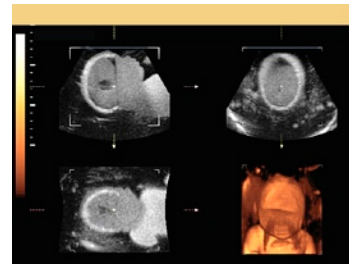
PHANTOM DIMENSIONS: 35 x 17 x 17 cm

PHANTOM WEIGHT: 8 kg

WARRANTY: 6 Months

OPTIONAL

Custom fit high impact carry/storage case Model 1550



Triplanar view of phantom with 3D reconstruction



Cross section measuring BPD.



Longitudinal measurements of femor length



Reference markers ensure repeatable measurements of AC and BPD.



Cross section demonstrating measurement of AC.