SUN NUCLEAR
A MIRION MEDICAL COMPANY

Fetal Ultrasound Biometrics Phantom

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- Enables skill development and demonstration of 20-week ultrasound exam
- Supports training, teaching, and demonstration of gestational age protocols
- Provides a low-stress educational environment for hands-on training without needing live patients

Second-trimester obstetric ultrasound examinations are used to estimate gestational age and assess fetal anatomy for the detection of malformations. The Fetal Ultrasound Biometrics Phantom facilitates competency development in fetal ultrasound screening. Access to patients for training can be limited, so the phantom supports teaching and demonstration of fetal ultrasound techniques in a realistic, low-stress training environment.

The phantom incorporates tissue-mimicking Zerdine® hydrogels representing a 21-week gestational age fetus suspended in an anechoic, amniotic fluid-simulating medium. The fetus is enclosed within a vinyl membrane and housed in a rotatable cylindrical enclosure that provides two fields of view, enabling a wide range of fetal and transducer orientations during scanning.

The fetal structures are based on published biometric data for normal fetal growth at a gestational age of 21 weeks. The anatomy includes an asymmetric head with calvaria, right and left cerebral hemispheres, and lateral and third ventricles to support biparietal diameter (BPD) and anterior-posterior diameter (APD) measurements. Right and left femoral shafts with distal epiphyses are provided for femur length (FL) measurements, and an umbilical marker indicates the appropriate location for abdominal circumference (AC) assessment. Crown-rump length (CRL) measurements may also be performed.

In addition, the facial features allow for realistic demonstration of 3D ultrasound imaging and evaluation of fetal anomalies.

Key Benefits

- Supports training, teaching, and clinical competency assessment in a non-stressful environment
- Enables testing and demonstration of 2D, 3D, and 4D ultrasound imaging
- Anatomical features support biometric measurements for a 21-week gestational age fetus
- Rotatable cylindrical enclosure offers two imaging windows
- Includes nylon transducer cover

Reference: Hansmann, M. (1985) Ultrasound Diagnosis in Obstetrics and Gynecology, Springer, Berlin.

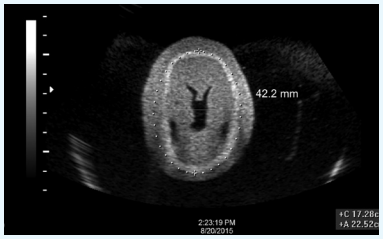
Fetal Ultrasound Biometrics Phantom

Facilitates competency development in fetal ultrasound screening

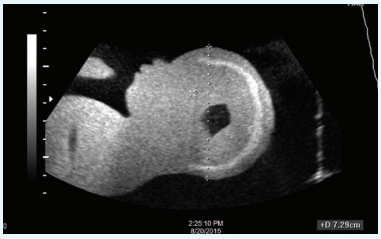
Specifications

Weight	8.9 kg (20 lbs)
Materials	Zerdine hydrogels Vinyl membrane PVC and ABS plastic housing
Biometric Dimensions	BPD: 4.2 cm (10th percentile) HC: 16 cm (16th percentile) APD: 5.8 cm FL: 3.8 cm AC: 17.5 cm CRL: 22 cm

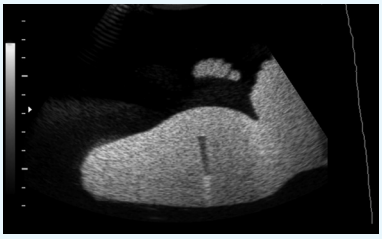
3D Reconstruction



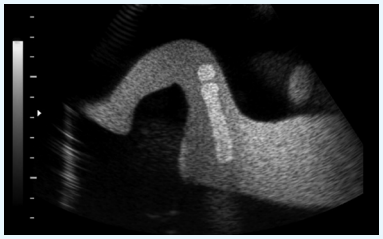
Axial Brain & BPD Measurement

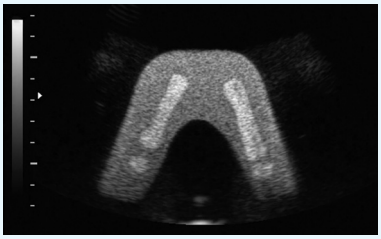


Sagittal Brain

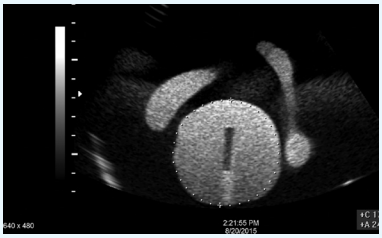


Sagittal Abdomen with IVC Marker





Femoral Length for Measurements



Abdominal Circumference for Measurement

Note: If any device has been inserted into the phantom, the warranty does not cover claims related to material desiccation or needle tracking.