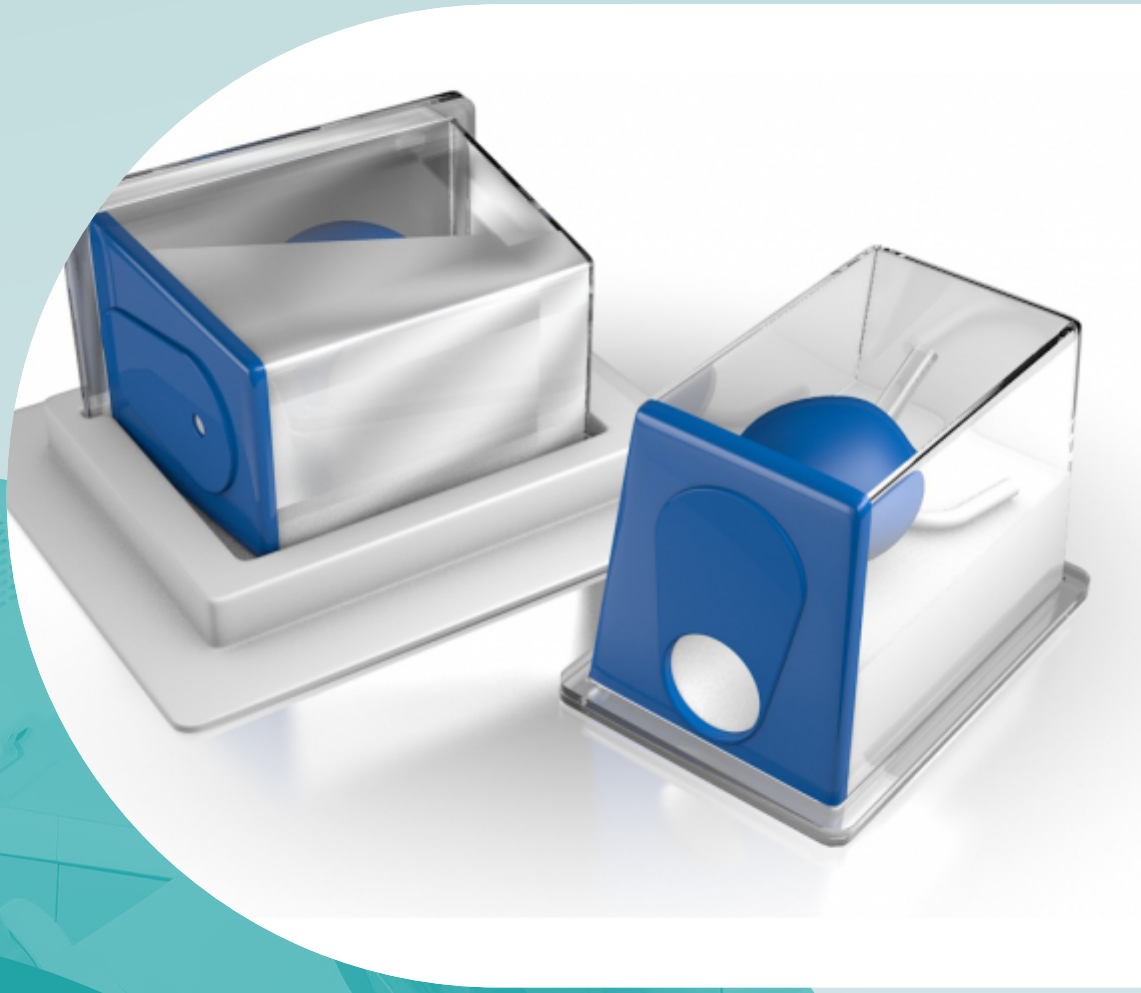
TRAINING PHANTOMS



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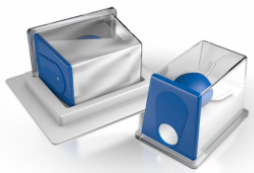
Partner Bertin Technologies

Bertin Technologies is a global provider of advanced radiation detection and environmental monitoring solutions, specializing in handheld monitors, personal electronic dosimeters, environmental monitoring systems, and waste & recycling management technologies. Their instruments are designed to meet the rigorous demands of nuclear facilities, emergency response teams, and environmental agencies.

Product offering

Model 057A Triple Modality 3D Abdominal Phantom – CIRS

Model 053S, 053L and 053L-EF Ultrasound Prostate Training Phantom – CIRS



Model 053-I Ultrasound Prostate Training Phantom – CIRS

Model 600 3D Sectional Torso Phantom – CIRS

Model 057A Triple Modality 3D Abdominal Phantom – CIRS

The CIRS Triple Modality 3D Abdominal Phantom is constructed of a self-healing formulation of Zerdine®(1) that allows multiple biopsy insertions with minimal needle tracking, and is ideal for demonstrating image-guided navigation technologies.

Abdominal imaging is useful for diagnosing disease and monitoring treatments. The Model 057A is representative of a small adult abdomen and can be imaged under CT, MR and ultrasound. This feature makes the phantom a useful tool for applications such as image fusion studies; imaging protocol developments; scan technique training; and system testing, validation and demonstration.

The Model 057A simulates the abdomen from approximately the thorax vertebrae (T9/T10) to the lumbar vertebrae (L2/L3) using simplified anthropomorphic geometry. The materials provide contrast between the structures under CT, MR and ultrasound. The solid polymer background gel will not leak when punctured.*

Internal structures include the liver, the portal vein, two partial kidneys, a partial lung, the abdominal aorta, the vena cava, a simulated spine and six ribs. The liver has six lesions and the kidneys each have one lesion. A muscle layer and outside fat layer surround these structures and plastic end caps make the phantom durable enough for extended scanning. Blood vessels have CT contrast added to provide enhanced auto registration in image fusion applications

The Phantom includes a foam lined hard carry case. To accommodate image fusion techniques, CIRS can offer value-added options and services such as phantom specific CMM, reference CT or MRI data sets, attachment of customer specific registration devices and inclusion of special point markers.

Features

- Demonstrate CT, ultrasound and MRI scan techniques
- Assess image fusion algorithms
- Test new equipment
- Validate automated biopsy systems
- Optimize imaging protocols
- Improve performance of freehand abdominal biopsies

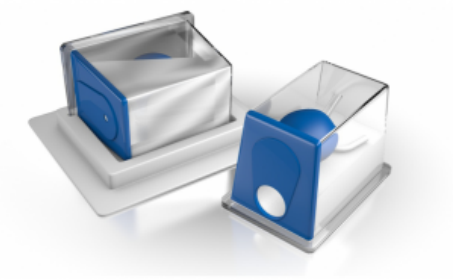
Contact our product specialist or download the datasheet.

Model 053S, 053L and 053L-EF Ultrasound Prostate Training Phantom – CIRS

CIRS designed the Ultrasound Prostate Training Phantom as a multi-modality disposable phantom developed for practicing procedures that involve scanning the prostate with a rectal probe. There are three different models: Model 053S, 053L and 053L-EF.

The clear, acrylic container contains the prostate along with structures simulating the rectal wall, seminal vesicles and urethra. A 3 mm simulated perineal membrane enables various probes and surgical tools to be inserted into the prostate.

This phantom is an ideal training device for ultrasound guided cryosurgery, radioactive seed implantation, and needle biopsy.



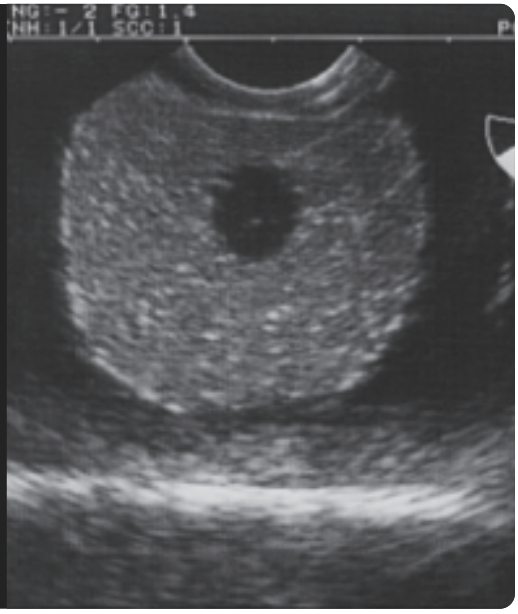
OPTIONS

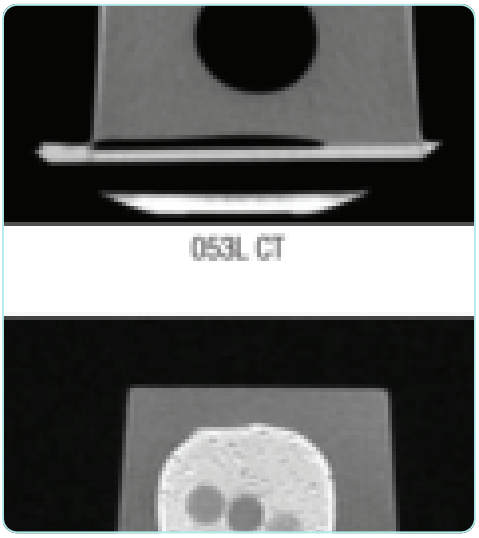
The phantom is available in three ways. The phantom is available with lesions (053L), without lesions (053S) and you can order either the standard side-fire configuration or an alternate geometry optimised for end-fire probes (053L-EF).

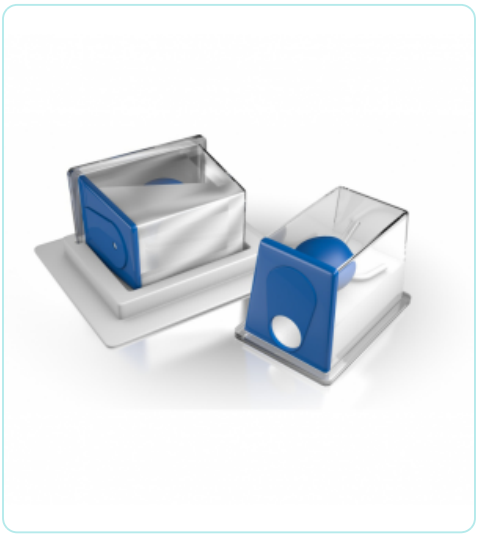
MODEL 053S 053L & 053L-EF FEATURES

- Includes rectal wall, seminal vesicles, perineal membrane and urethra
- Train for ultrasound-guided cryosurgery, seed implantation and needle biopsy with one phantom
- Compatible with multiple probes and surgical tools
- Structures are visible under CT, MRI, ultrasound and elastography
- Gel designed to minimise needle tracking

For more information, go to this page from our partner.







If you have any questions...

Contact PEO

Model 053-I Ultrasound Prostate Training Phantom – CIRS

The CIRS Ultrasound Prostate Training Phantom (model 053-I) is a disposable phantom perfect for practicing permanent seed implantation procedures. It contains several unique features to assist the teaching and learning process.

The simulated perineal membrane permits needle insertion with realistic resistance. In addition, the area below the rectal wall is a clear gel to permit visualisation of probe orientation.

PROSTATE TRAINING PHANTOM FEATURES

- Perineal membrane for needle insertion with realistic resistance
- Assess image fusion algorithms
- Test new equipment
- Optimize imaging protocols
- Improve performance of freehand abdominal biopsies

For more information about prostate phantoms, visit our partner's website!

Model 600 3D Sectional Torso Phantom – CIRS

The Model 600 3D Sectional Torso Phantom has been designed for providing an accurate simulation of an average torso (22 cm posterior-anterior thickness) for medical imaging and dosimetry applications.

Model 600 3D Sectional Torso Phantom features:

- can be configured to accommodate a multitude of dose measurement media
- usable on any X-ray imaging or treatment device
- includes internal organ structures
- ideal for calibration, QA and training purposes when specific internal organs are of interest

Read more about the Model 600 3D Sectional Torso Phantom on the CIRS website

Model 600 3D Sectional Torso Phantom CIRS

Partner Sun Nuclear Corporation

Sun Nuclear is a leading provider of comprehensive Quality Management solutions for radiation therapy and diagnostic imaging. Their portfolio encompasses positioning systems, dosimetry tools, QA phantoms, detectors, dose rate monitoring devices, analysis software, and training phantoms. These solutions are designed to support medical professionals in ensuring accurate, safe, and efficient patient care.

Product offering

Image-Guided Abdominal Biopsy Phantom (model 071B) – CIRS

Model 1425 – Doppler Flow System – Sun Nuclear

Model 1430 – Mini-Doppler Flow System – Sun Nuclear

Model 164A – Stereotactic Breast Biopsy Phantom – Sun Nuclear

Model 711-HN ATOM Max Dental & Diagnostic Head Phantom – CIRS

Image-Guided Abdominal Biopsy Phantom (model 071B) – CIRS

The Image-Guided Abdominal Biopsy Phantom is a simplified abdominal phantom. It's suitable for training and demonstrating image-guided needle biopsy navigation tools or procedures that require a constant visual reference for needle placement. The phantom allows many uses over time because of the background gel minimizes needle tracks when punctured.

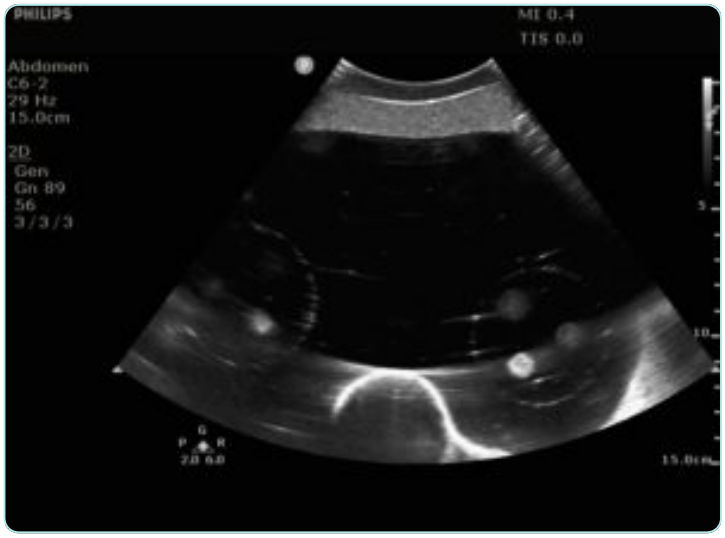
The phantom contains 12 lesions, 5-12 mm in diameter, positioned in groups of three in consistent locations within the phantom. It also includes simulated spine and ribs, and an "H" marker within the spine to assist in determining the head side within a CT-image. You can see the lesions and spine under ultrasound, CT and MRI. The solid polymer gel background is anechoic and will also not leak when it is punctured.

The phantom also includes a foam lined hard carry case and it's useful in multiple fields. The phantom is perfect for CT, Ultrasound and MRI, live scanning and biopsy training.

IMAGE-GUIDED ABDOMINAL BIOPSY PHANTOM FEATURES

- Improve performance of freehand abdominal biopsies
- Minimal needle tracking- Z-skin fat layer and softer gel provide better self-healing properties
- Validate automated biopsy systems
- Suitable for CT, MRI and Ultrasound

If you want to read more about this phantom, take a look ar our partner's website!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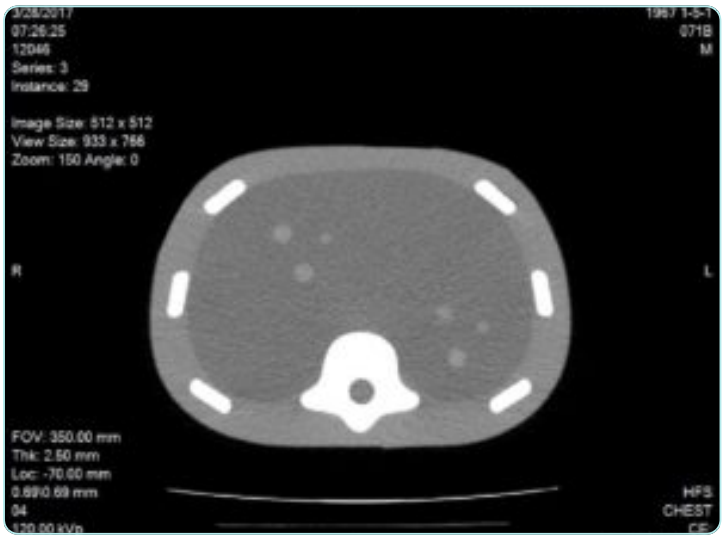
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CHEST

Model 1425 – Doppler Flow System – Sun Nuclear

The Doppler Flow System from Sun Nuclear (formerly Gammex) tests both Doppler and B-mode ultrasound systems in a single unit. The compact, easy to store and transport designed system combines the flow system, phantom and electronic flow controller into a single unit. Scanner selection, quality control testing, training and research can all be performed using this multi-faceted ultrasound tool. A wide range of targets and vessels are included in the unit.

Doppler Flow System features:

- the Choice of attenuations of 0.5 or 0.7 dB/cm/MHz
- combines low echo matrix with line reflectors and anechoic cyst targets at 2, 4 and 6 mm depths
- two 5mm vessels in the system adhere to FDA Doppler sensitivity recommendations.
- flow controller with a range of 1 to 12.5 ml/sec
- 5 preset pulse flow patterns

Do you want to know more about the Doppler Flow System?

If you want to continue your search for additional information on this product try this link.

Model 1430 – Mini-Doppler Flow System – Sun Nuclear

The Doppler Flow System tests both Doppler and B-mode ultrasound systems in a single unit. The compact, easy to store and transport designed system combines the flow system, phantom and electronic flow controller into a single unit. Scanner selection, quality control testing, training and research can all be performed using this multi-faceted ultrasound tool. A wide range of targets and vessels are included in the unit.

Mini-Doppler Flow System features:

- the Choice of attenuations of 0.5 or 0.7 dB/cm/MHz
- includes 404GS LE components with Grey Scale targets
- combines low echo matrix with line reflectors and anechoic cyst targets at 2, 4 and 6 mm depths
- two 4 mm vessels in the system adhere to FDA Doppler sensitivity recommendations.
- flow controller with a range of 0 to 10 ml/sec
- 8 preset pulse rates

Do you want to know more about the Mini-Doppler Flow System?

If you want to continue your search for additional information on this product try this link.

Model 164A – Stereotactic Breast Biopsy Phantom – Sun Nuclear

The Stereotactic Breast Biopsy Phantom form Sun Nuclear (formerly Gammex) is designed to be used as a training phantom for performing biopsy procedures. It provides a good representation of breast tissue.

Multiple radiopaque lesions are impeded in the phantom to permit multiple uses of the phantom by different personnel.

Model 164A Stereotactic Breast Biopsy Phantom features:

- made of clear gel encased in a soft vinyl for easy compression and a skin-like resistance to needle insertion
- embedded in the gel are radiopaque lesions ranging in size for practicing core biopsies
- liquid dye filled lesions allow for the practice of fine needle aspiration
- compressible within a biopsy instrument

If you want to continue your search for additional information on this product try this link.

Model 711-HN ATOM Max Dental & Diagnostic Head Phantom – CIRS

The Model 711-HN ATOM Max Dental & Diagnostic Head Phantom is a standard of reference for diagnostic radiology of the head. The phantom has been developed to assist clinical and technical staff in the monitoring, selection, verification and training of scanning parameters common to most radiological procedures requiring fine anatomical details.

Model 711-HN ATOM Max Dental & Diagnostic Head Phantom features:

- tissue Equivalent from 50 keV to 25 MeV
- carrying case included
- includes detailed anatomical features
- Frankfurt plane identified to ensure proper alignment
- positioning stand with six degrees-of-freedom
- easy to set up and use

Read more about the Model 711-HN ATOM Max Dental & Diagnostic Head Phantom on the CIRS website