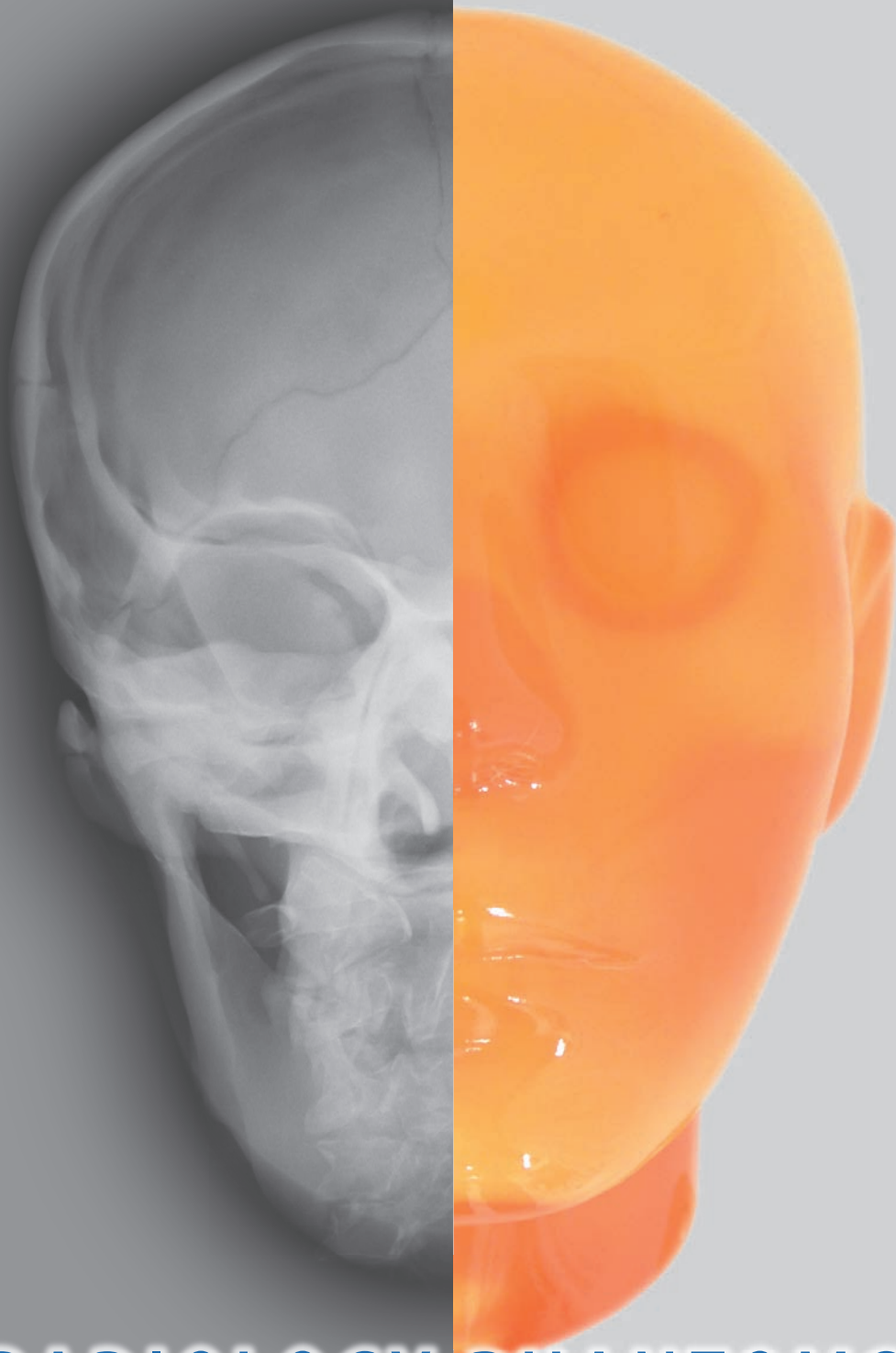




RADIOLOGY PHANTOMS

PRODUCT CATALOG

Vol. RP-2

OFFICES



Kyoto Kagaku Co., Ltd Head Office and Factories

15 Kitanekeya-cho, Fushimi-ku,
Kyoto, 612-8388, Japan

Kyoto Kagaku Co., Ltd Tokyo Branch

Second fl. NREG Hongo-3-chome bldg., 3-26-6
Hongo, Bunkyo-ku, Tokyo 113-0033, Japan

Kyoto Kagaku Co., Ltd Sendai Branch

6th. Taiyoseimei Sendaihoncho bldg., 4-18 Honcho-3-chome,
Aoba-ku, Sendai City, Miyagi 980-0014, Japan



Kyoto Kagaku Europe GmbH

De-Saint-Exupery-Str.10,
60549 Frankfurt,
Germany



Kyoto Kagaku America Inc.

3109 Lomita Boulevard,
Torrance, CA 90505-5108,
USA

PRODUCT CATALOG

RADIOLOGY PHANTOMS

Vol. RP-2

Icon Legend

Model number | code

Product Name

Hole for dosimeter

Storage case

Dosimetry

CT

X-ray

STORAGE
CASE

Applications

COMMUNICATION and INNOVATION *EVOLUTION for the FUTURE OF MEDICAL IMAGING*





We would like to introduce our new Kyoto Kagaku factory building (inaugurated April 2023) which specializes in medical imaging phantoms. This state-of-the-art facility not only allows enhances our manufacturing abilities but also serves as a hub for demonstrating the usage of Kyoto Kagaku phantoms worldwide.

Each floor is strategically designed to optimize production efficiency:

On the first floor, which is dedicated to X-ray phantom production, visitors will encounter a real CT scanner and X-ray machines for product inspection alongside simulated examination rooms for hands-on demonstrations.

The second floor houses the ultrasound phantom team with a number of 3D printers for current manufacturing needs.

The third floor features the "working commons," which serves as a web broadcasting studio for online training and is equipped with conference rooms for web meetings. Additionally, visitors can explore product exhibition rooms and simulated hospital environments for interactive learning experiences.

Our lounge area is open to visitors from all over the world, creating an environment for communication and the exchange of innovative ideas. We invite you to visit Kyoto and join us for tea in our new building where conversations may spark ideas for the next generation of phantoms.



Toshigeki Takayama.

PH-82 P.8



Dynamic Cardiac CT Phantom
SKK II

PH-39 P.9



Dynamic Thorax Phantom

PH-48 P.10



Dynamic Heart and Lung
Phantom

PH-81 P.11



Moving Phantom for Residual
Image Evaluation KS-III

Feature
Article

Kyoto Kagaku Chest Phantom Family

P.12 ▶

PH-83 P.13



Compressible Mammography
Phantom Comp-AY

PH-1 P.14



Multipurpose Chest Phantom N1
"LUNGMAN"

PH-15 P.15



N-1 Optional Parts

PH-17 P.17



Bronchoscopy-compatible N-1
Lungman with Pulmonary Vessels

PH-1C P.18



Pediatric Chest Phantom

PH-8 P.19



Lung Cancer Screening CT
Phantom LSCT001

PH-63 P.20



Thorax Phantom for RI

Feature
Article

Kyoto Kagaku Anthropomorphic Phantoms

P.22 ▶

PH-50B P.23



Newborn Whole Body Phantom
"PBU-80"

PH-2C P.24



Pediatric Whole Body Phantom
"PBU-70"

PH-2D P.25



Bone Fracture Pediatric Phantom
"PBU-70B"

PH-26 P.26



CT Pediatric Whole Body
Phantom with Pathologies

PH-2B P.27



CT Whole Body Phantom
"PBU-60"

PH-2E P.28



CT Whole Body Phantom
with Pathologies

PH-2 P.29



Whole Body Phantom "PBU-50"

PH-60 P.30



Tough Whole Body Phantom
"PBU-90 RUGGED"

PH-31 P.31



PBU Optional Parts

PH-79 P.32



X-Ray Training Phantom
PBU-POSE

PH-4 P.33



CT Torso Phantom CTU-41

PH-3 P.34



Angiographic CT Head Phantom
ACS (for CT / Angio / MECT)

PH-77 P.35



CT Stroke Head Phantom KH

PH-76 P.36



Dental Radiography Head
Phantom (Mouth closed / opened)

PH-5 P.37



CT Abdomen Phantom
(for CT / MECT)

US-22 P.38



Dual Modality Human Abdomen
Phantom (CT, Ultrasound)

PH-18 P.39



Stomach Phantom BMU-1

PH-19 P.39



Rotation Stomach Phantom
TMP-R

PH-46 P.40



CT Prostate Phantom

PH-71 P.40



Knee Ligament Phantom

PH-49 P.41



CT Colonography Phantom NCCS

PH-51 P.42



Lumbar Spine Fluoroscopy
Training Phantom

PH-61 P.43



Sectional Phantom Series

PH-78 P.44



Radiology Cube Phantom
XCUBEFAN

PH-75A / B

P.46



Multi Energy CT Quality Assurance Phantom

PH-75C

P.47



Multi Energy CT Quality Assurance Phantom-TR-A type

PH-80

P.47



Daily QA Phantom WEM "Aqua Slab"

PH-9

P.50



Multi Slice CT Phantom MHT

PH-9-2

P.50



Ladder Phantom

PH-55

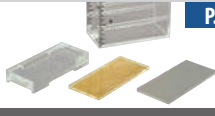
P.51



CT ERF Phantom HIT

PH-56

P.52



Tomosynthesis Phantom NS

PH-59

P.53



CT-DI Phantom (Head and Body Phantom)

PH-54

P.53



CT QA Phantom JCT II

PH-7

P.54



CT-AEC Phantoms

PH-13

P.55



Digital Mammographic Phantom NCCE

PH-10

P.55



BMD Chart Phantom UHA

PH-17

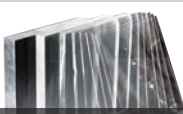
P.56



Water Body Phantom WAC

PH-14

P.56



Acrylic Phantom XAC

PH-16

P.56



Contrast Detail Phantom

PH-31/ 32B

P.57



MRI Quality Assurance Phantom MHR / JMR II

PH-72

P.58



MRI Breast QA phantom

PH-33

P.58



MRI Head Phantom NH

PH-34

P.58



MRI/NM Head Phantom BHC

PH-28

P.59



SPECT QA Phantom JSP

PH-53

P.60



Brain Phantom IB-20 advanced

PH-27

P.60



Brain Phantom IB-10

PH-69

P.61



Thyroid Phantom UN

PH-26

P.62



ORINS Thyroid Phantom ITS

PH-29

P.62



ECT Hot Cold Phantom SP-6

PH-73

P.63



PET Body Phantom (NEMA-IEC)

PH-74

P.64



Bone Scintigraphy Quality Assurance Phantom

PH-24

P.65



Myocardial Phantom HL

PH-40/ 41/ 42

P.66



Tough Phantom Series

PH-37

P.67



Therapy Body Phantom THRA-1

PH-38

P.67



Pediatric Therapy Body Phantom THRA-2

PH-82 | 41954-000

Dynamic Cardiac CT Phantom SKK II

CT



For evaluation and research in ECG gated cardiac CT

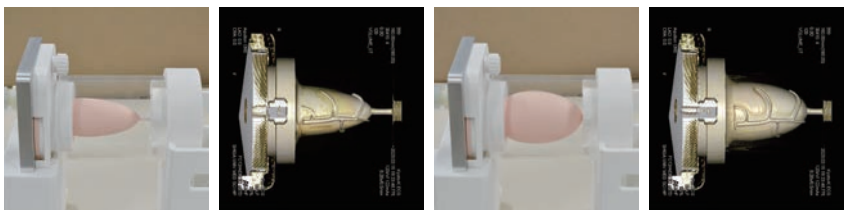


SHOW MORE!



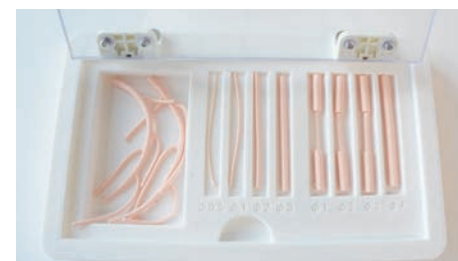
FEATURES

- | The phantom represents physical movement and volumetric change of the left ventricle
- | The heart phantom is made of human tissue substitute material for CT
- | Coronary arteries' variation includes stenosis, contrast enhances and anatomical vessels
- | The phantom generates pulses that are synchronized with the cardiac movement for ECG gating
- | Controllable parameters; pulse rate (30-120 bpm) and ejection volume (0-100%)
- | Three kinds of arrhythmic modes
- | Operation with the tablet PC is simple and easy



APPLICATIONS

- | Measurement of the left ventricle volumetric change
- | Image quality evaluation of coronary arteries



variations of vessels
*the case for the vessels is not included.

DESCRIPTIONS

SET INCLUDES

1 drive unit	1 set of simulated coronary arteries
1 heart phantom	1 controller
1 protective cover	1 storage case

PUBLICATION REFERENCES

N.Nitta, et al Efficacy of ECG gating for lung CT imaging in evaluating pulmonary nodule: Fundamental experiment with a newly developed pulsating cardiac phantom, ECR 2006 C-207 Poster, doi: 10.1594/ECR06/C-207

PH-39 | 41326-000

Dynamic Thorax Phantom

Dosimetry

CT

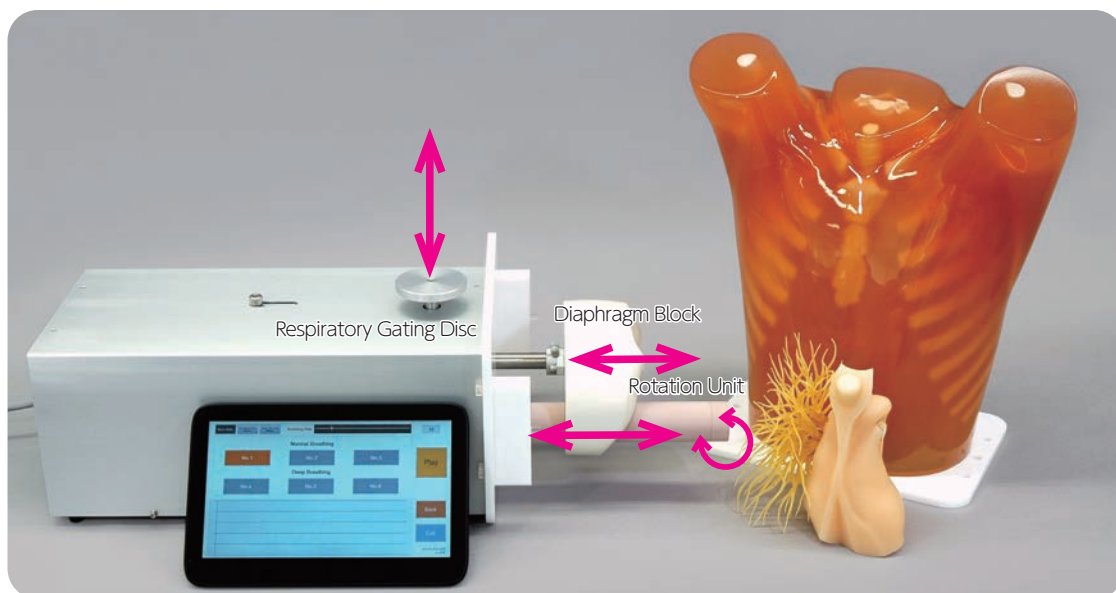


DYNAMIC PHANTOMS

Anthropomorphic chest phantom for respiratory gating



SHOW MORE!



FEATURES

- | This phantom represents the movement of human lungs.
- | A male chest torso phantom with human tissue substitute material.
- | Simple operation with the wireless tablet.
- | The pulmonary nodule and the diaphragm move independently with the respiratory cycle.
- | Three-dimensional movement of the pulmonary nodule (linearly and rotationally).
- | TLD can be inserted to simulate the nodule.
- | Six respiratory patterns are preset.
- | Respiratory patterns can be modified and saved.
- | Up to three different respiratory patterns can be run in sequence.
- | Three operation modes: basic, combination, and user mode.

APPLICATIONS

- | Respiratory gating CT
- | Dosimetry
- | Radiation therapy

CONTROLLABLE PARAMETERS

- | Respiratory rate: 6-24 cycles / min.
- | Movement of diaphragm: 0-38 mm / 0-1.5 in
- | Linearly movement of nodule unit:
38-64 mm / 1.5-2.5 in
- | Rotation of nodule unit: 50-70 degrees

DESCRIPTIONS

SET INCLUDES

1 drive unit	1 diaphragm block
chest phantom	1 set of simulated nodules
mediastinum phantom	1 controller
with right pulmonary vessels	1 storage case
nodule rotation unit	manual

PH-48 | 41327-000

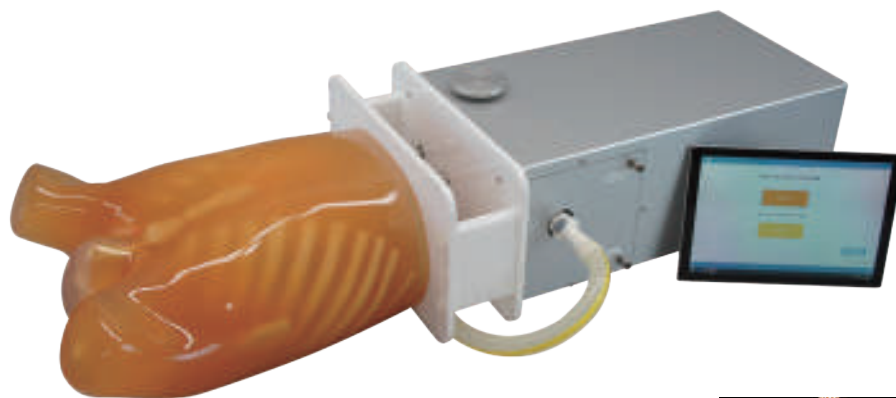
Dynamic Heart and Lung Phantom

Dosimetry

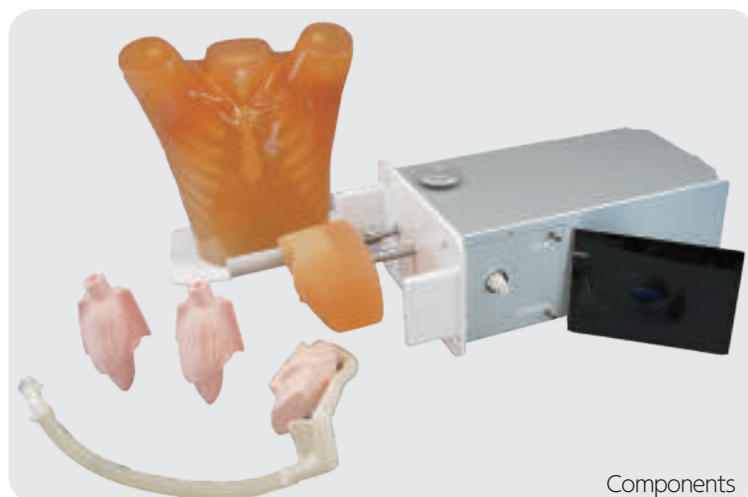
CT



The motion of diaphragm and tumor, and the realistic heart motions provide various solutions for clinical research



SHOW MORE!



Components



Non-ECG Gated



ECG Gated



ECG Gated



Non-ECG Gated

FEATURES

- This phantom represents movement of the heart, lungs and pulmonary nodule
- The pulmonary nodule and diaphragm move independently with the respiratory cycle
 - Three-dimensional movement of the pulmonary nodule (linearly and rotationally)
 - Motion disc represents respiratory movement of abdomen
- The elastic heart represents systolic and diastolic motion
- The coronary arteries including stenotic examples are shown
 - The phantom can be connected to ECG for ECG gating

ANATOMY

- Synthetic bones of the chest
- Diaphragm
- Heart with coronary artery

DESCRIPTIONS

SET INCLUDES

1 drive unit	1 set of simulated tumors (15 types)
1 nodule rotation unit	1 tablet PC
1 diaphragm block	1 storage case
1 chest phantom	manual
3 types of heart unit	

APPLICATIONS

- Respiratory gating chest CT
- Tumor tracking in radiotherapy
- ECG gating cardiac CT

PATHOLOGY

- Pulmonary nodule
- stenosis of coronary arteries

CONTROLLABLE PARAMETERS

- Heart rate: 30-120 times / min
- Ejection volume: 60, 70, 80, 90, 100ml
- ef rate: 30%, 35%, 40%, 45%, 50%, 55%, 60%
- Respiratory rate: 6-24 cycles/min
- Linear movement of nodule unit: 8-64mm / 0-1.5 in
- Rotation range of nodule unit: 50-70 degrees

PUBLICATION REFERENCES

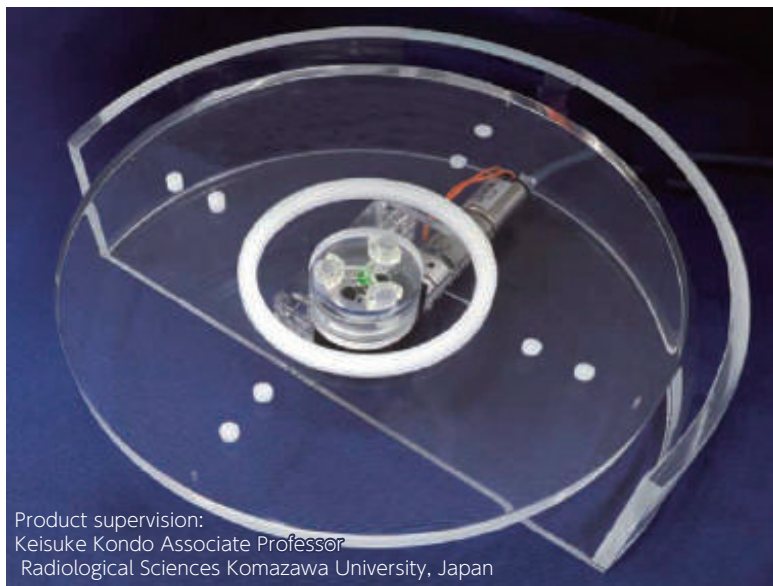
Hsieh CY, Gladish G, Willis CE. Evaluation of a commercial cardiac motion phantom for dual-energy chest radiography. J Appl Clin Med Phys. 2014 Mar 6;15(2):4508. doi: 10.1120/jacmp.v15i2.4508. PMID: 24710435; PMCID: PMC5875465.

PH-81 | 41949-000

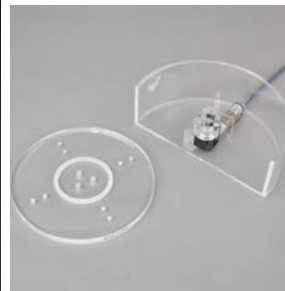
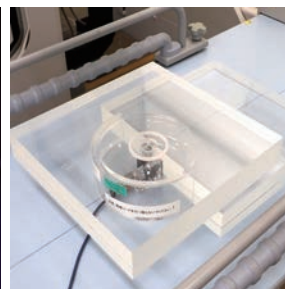
X-ray

Moving Phantom for Residual Image Evaluation KS-III

A phantom for determining shooting conditions and image processing parameters for moving images such as IVR



Product supervision:
Keisuke Kondo Associate Professor
Radiological Sciences Komazawa University, Japan



SHOW MORE!



DYNAMIC PHANTOMS

FEATURES

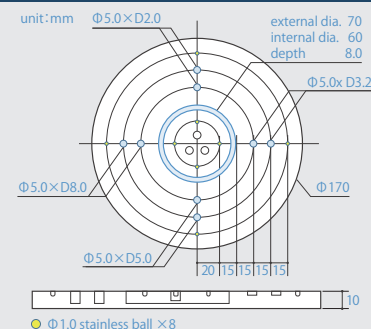
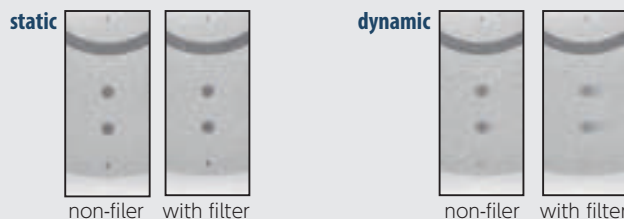
- Signals placed on a rotating disk for determining shooting conditions and image processing parameters for moving images
- Using moving signals to analyze the residual images and lags
- Metallic ball for alignment
- Signals with four different contrast enables visual evaluation in low contrast
- Come with data analysis software which use imageJ

APPLICATIONS

- IVR
- Evaluation of residue in moving image
- Evaluation of contract variation in moving image

ANALYSIS METHOD

Noise reduction process such as recursive filter is effective on static images but generate residue (lag) on moving images. Use the phantom and the provided software to analyze and evaluate the residue (lag) particular to dynamic images.



DESCRIPTIONS

SET INCLUDES

- | | |
|-------------------------|---------------------|
| 1 control unit | 1 analysis software |
| 1 disc phantom | 1 carrying case |
| 1 set of cable and plug | 1 manual |

MATERIALS

Acrylic resin, Epoxy

SPECIFICATIONS

Phantom size: W20×D18.5×H6.7 mm
W7.9×D7.3×H2.6 in
Phantom weight: 855g / 1.88lb
Rate of rotation: 4 /minute
*Rate 4rpm is based on cardiac movement of 20mm/s
Internal signal: 20.9mm/s, external signal: 27.2mm/s
Power supply: AC100V 50/60Hz
Consumption: 10W

*Acrylic plates for scatterer are not included in the set

PUBLICATION REFERENCES

Sato H, Kondo K, Kato K, Nakazawa Y. Evaluation of image lag in a flat-panel, detector-equipped cardiovascular X-ray machine using a newly developed dynamic phantom. J Appl Clin Med Phys. 2015 Mar 8;16(2):5213. doi: 10.1120/jacmp.v16i2.5213.

Kyoto Kagaku Chest Phantom Family

The thorax contains crucial organs for basic body maintenance and function, all of which can be endangered by the threat of lung cancer. Here's a family of chest phantoms which support training for better and more thorough diagnosis and treatment.

Pursuit of low-dose



PH-8 Lung Cancer Screening CT Phantom LSCT001



PH-58 Subsolid Nodules

Extensive possibilities for study and training

Attach the simulated tumors & Improve interpretation skills



PH-1 Multipurpose Chest Phantom N1 "LUNGMAN"

Radiotherapy



PH-39 Dynamic Thorax Phantom



Components for Radioisotope for "LUNGMAN"

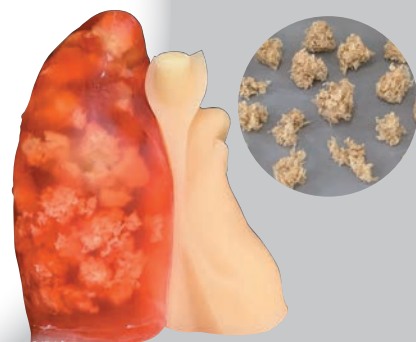
Body size variation



PH-1C Pediatric Chest Phantom



Chest plates for "LUNGMAN"



Modality variation



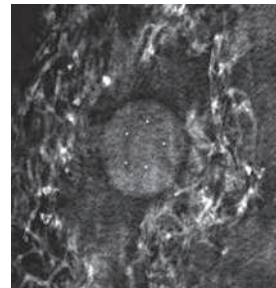
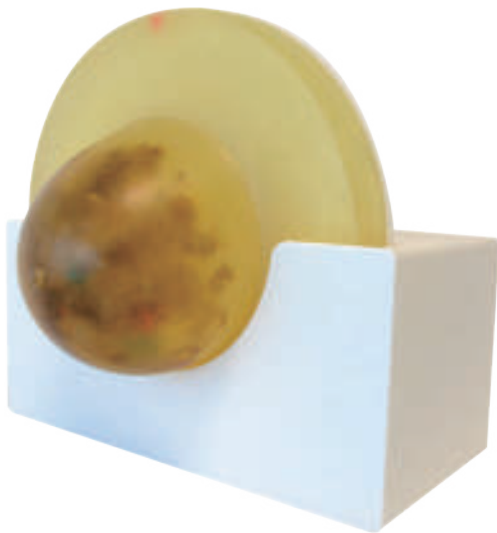
PH-63 Thorax Phantom for RI

PH- 83 | 41956-000

Compressible Mammography Phantom Comp-AY



Allows for thorough visual evaluation under a variety of scanning conditions and image comparison of different modalities.



SHOW MORE!



FEATURES

- | Soft and resilient material of the phantom allows breast compression for imaging.
- | Three-dimensional structure of simulated mammary gland fibers and tumors to visualize realistic medical images.
- | Allows for visual evaluation under different scanning conditions and locations of tumors
- | Allows for image comparison of different modalities

APPLICATIONS

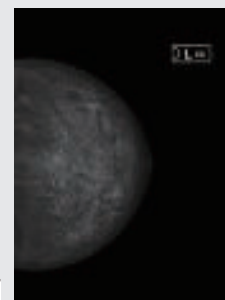
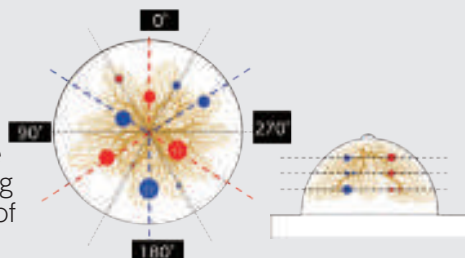
- | Tomosynthesis
- | Mammography
- | Evaluation and study of effect of breast compression on image quality
- | Patient Positioning

ANATOMY and Pathologies

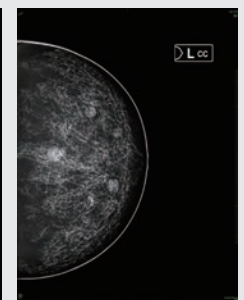
Simulated targets: 2, 4, 6, 8, 10mm dia.
Calcifications: 0.3mm dia. x 5 in each 10mm dia. target

- high density
- low density
- ⊕ target with calcifications
- 🌾 mammary gland

Angle gauge on the back of the phantom for reproducible setting as well as to simulate a variety of patient cases.



tomosynthesis (DBT)



mammography(2D)

DESCRIPTIONS

SET INCLUDES

- | | |
|---------------------|----------------------------------|
| 1 breast phantom | 1 set of sample X-ray data (DVD) |
| 1 supporting holder | manual |

MATERIALS

polyurethane

SPECIFICATIONS

Phantom size:

base :26 dia.×H3 cm, 10.2 dia.×H1.2 in
mamma:14 dia.×H9 cm, 5.5 dia.×H3.5 in

Phantom weight: 2.5kg, 5.5lb

PUBLICATION REFERENCES

A. Takada, H. Inagawa, M. Inohara, N. Ikeda, N. Nakagawa, A. Takeuchi, Y. Nagai,
Verification of Breast Compression Effects in Digital Mammography and Digital Breast Tomosynthesis Using Compressible Breast Phantom, ECR24, C-14022

PH-1 | 41337-000

CT

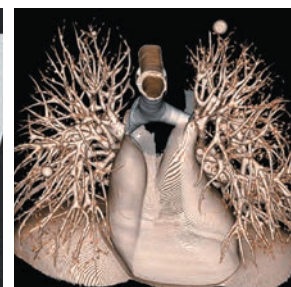
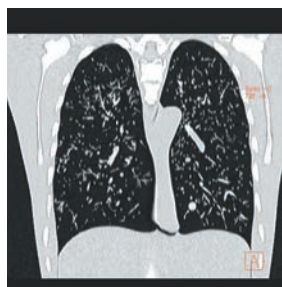
X-ray

Multipurpose Chest Phantom N1 "LUNGMAN"

PH-1 is used in a study by the FDA to create a database of CT scans with different scanners and protocols, as a resource for assessment of lung nodule size estimation method



SHOW MORE!



FEATURES

- | Detailed three-dimensional pulmonary vessels including capillaries permits radiographs and CT of every plane
- | Radiation absorption and HU number approximate to human body
- | Simulated tumors and other targets can be attached in the lung fields
- | Wide variety of uses in interpretation training, anatomical education, evaluation and assessment of devices and other research
- | Arms-abducted position of the torso suits the CT

APPLICATIONS

- | CT
- | Plain X-ray
- | Radiographic interpretation

ANATOMY

Chest includes;

- | main body:
synthetic bones are embedded
- | mediastinum:
heart, trachea
pulmonary vessels
- | abdomen (diaphragm) block:
no internal structure

Simulated tumors



Simulated tumors in five-size and three-HU-number variations can be attached to arbitrary positions in the lung field.



DESCRIPTIONS

SET INCLUDES

- | | |
|--|----------------------------------|
| 1 chest torso | 1 set of sample X-ray data (DVD) |
| 15 simulated tumors (15 variations 1 piece each) | manual |

SPECIFICATIONS

Phantom size: W43×D20×H48 cm, chest girth 94 cm W17×D8×H18 in, chest girth 37 in	Packing size: W63×D50×H29 cm W24.8×D19.7×H11.4 in
Phantom weight: 18 kg / 39.6 lb	Packing weight: 25 kg / 55.1 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)
*Phantom has no metal parts or liquid structure

OPTIONAL PARTS

- | | |
|-----------|------------------|
| 41337-010 | Chest plates |
| 41363-020 | Storage case |
| 41337-070 | Simulated tumors |



- PUBLICATION REFERENCES**
- Xie, X., Zhao, Y., Snijder, R. A., van Ooijen, P. M., de Jong, P. A., Oudkerk, M., ... Greuter, M. J. (2013). Sensitivity and accuracy of volumetry of pulmonary nodules on low-dose 16- and 64-row multi-detector CT: an anthropomorphic phantom study. *European radiology*, 23(1), 139-147. doi:10.1007/s00330-012-2570-7
- Gomi, T., Nakajima, M., Fujiwara, H., Umeda, T. (2011) Comparison of Chest Dual-energy Subtraction Digital Tomosynthesis Imaging and Dual-energy Subtraction Radiography to Detect Simulated Pulmonary Nodules with and without Calcifications. *Academic Radiology*, 18(2), 191-196. doi:10.1016/j.acra.2010.09.021
- Gavrielides MA, Kinnard LM, Myers KJ, Peregoy J, Pritchard WF, Zeng R, Esparza J, Karanian J, Petrick N. A resource for the assessment of lung nodule size estimation methods: database of thoracic CT scans of an anthropomorphic phantom. *Opt Express*. 2010 Jul 5;18(14):15244-55. doi: 10.1364/OE.18.015244.

41337-090

Breast Plate for Chest Phantom N-1

CT

X-ray

Simulates the absorption rate of breasts during female chest X-ray and demonstrates the influence of the nipple on image quality



SHOW MORE!



FEATURES

This plate can be attached to PH-1 to study radiation absorption of the breasts and its effect on image quality.

APPLICATIONS

| CT
| Plain X-ray

DESCRIPTIONS

SET INCLUDES

1 breast plate

MATERIALS

urethane based resin (density: 1.06)

SPECIFICATIONS

Phantom size:
W47×D11×H55 cm
W18.5×D4.3×H21 in

Packing size:
W63×D50×H29 cm
W24.8×D19.7×H11.4 in

41337-080

Pneumonia Kit for N-1

CT

X-ray

Attachment for N-1 chest phantom to create true-to-life medical images of pneumonia



*The mediastinum and the pulmonary vessels are not included.

DESCRIPTIONS

SET INCLUDES

1 set of pneumonia attachments

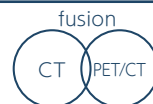
MATERIALS

polyurethane (density:0.92)

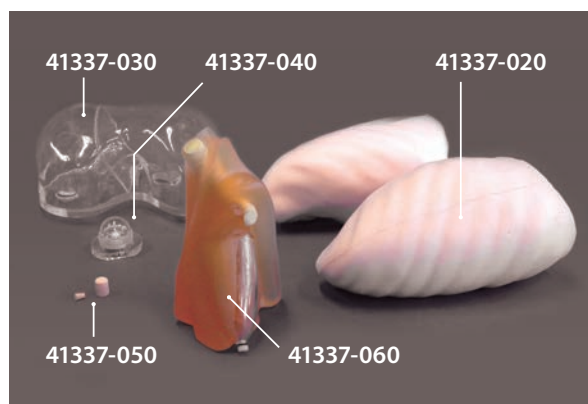
41337-020-

Components for Radioisotope

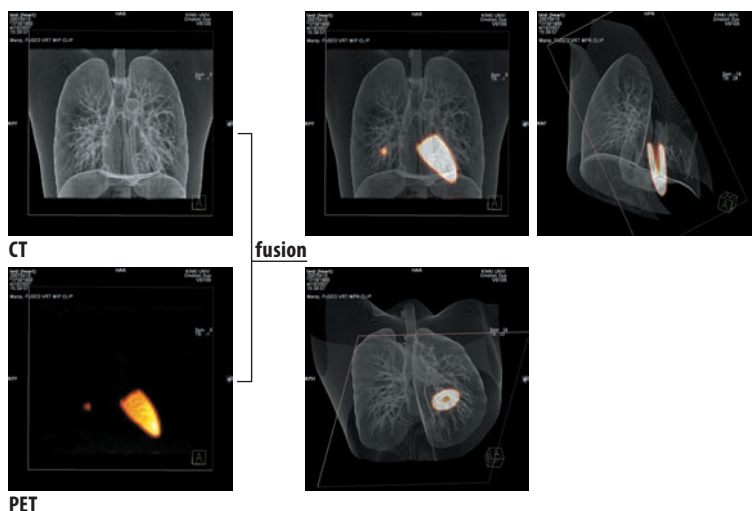
Optional Parts for PH-1



The set of RI container inserts can be set in the chest phantom in place of standard inserts, allowing for wider research applications such as PET/CT fusion evaluation



- 41337-020 Lungs of urethane
 41337-030 Liver RI container
 41337-040 Gallbladder RI container
 41337-050 Pulmonary nodule RI container
 41337-060 Mediastinum with left myocardium RI container



DESCRIPTIONS

MATERIALS

Container: acrylic resin
 Liver: acrylic resin
 Heart: urethane based resin
 Lung and pulmonary nodule: urethane based resin

PH-58

Subsolid Nodules Phantom

Optional Parts for PH-1

Both mixed and pure GGO are provided in a variety of sizes and HU numbers

Subsolid Nodules Phantom is a set of simulated lesions designed for study and training in Grand-Glass Opacity (GGO) detection and interpretation. Both mixed and pure GGO are provided in a variety of sizes and HU numbers. The set also includes 3-D GGO modeled on clinical CT data. The simulated lesions can be attached to the pulmonary vessels of the Chest Phantom N1 "LUNGMAN" or in the CT Lung Phantom.

41923-000 No.1-7 Concentric

	Item No.	GGO field		Solid field		Type
		Diameter	HU	Diameter	HU	
	1	1.5 cm 0.59 in	-650	0.5 cm / 0.20 in	-50	Concentric 
	2				0	
	3				50	
	4	2.0 cm 0.79 in		0.3 cm / 0.12 in	0	
	5			0.5 cm / 0.20 in		
	6			0.7 cm / 0.28 in		
	7			0.9 cm / 0.35 in		

41923-100 No.8-10 Eccentric

Item No.	GGO field		Solid field		Type
	Diameter	HU	Diameter	HU	
8	1.5 cm 0.59 in	-650	0.5 cm / 0.20 in	-50	Eccentric
9				0	
10				50	

41923-200 No.11-12 Eccentric

Item No.	GGO field		Solid field		Type
	Diameter	HU	Diameter	HU	
11	2.0 cm 0.79 in	-650	0.3 cm / 0.12 in	0	Eccentric
12			0.5 cm / 0.20 in		
			0.7 cm / 0.28 in	0	

41923-300 No. a-h Pure GGO

Item No.	GGO field		Solid field		Type
	Diameter	HU	Diameter	HU	
a	1.5 cm 0.59 in	-750	-	-	Pure GG
b		-650	-	-	
c		-550	-	-	
d		-450	-	-	
e		-350	-	-	
f		-250	-	-	
g		-150	-	-	
h		-50	-	-	

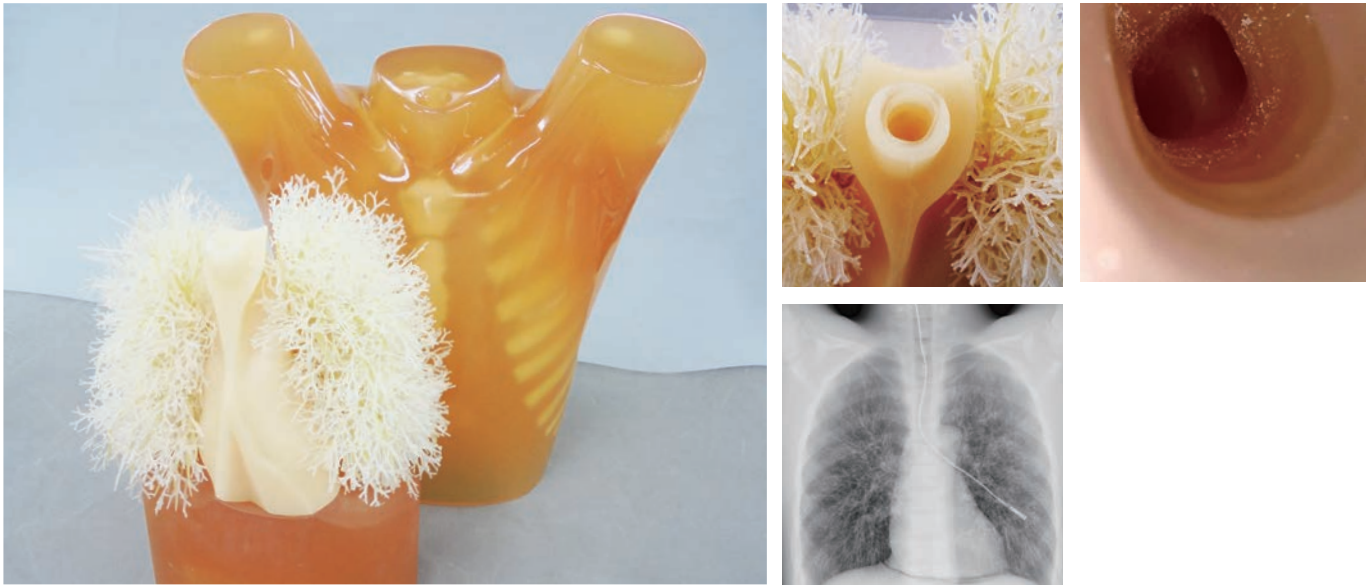
41923-400 3D GGO

Item No.	GGO field		Solid field		Type
	Diameter	HU	Diameter	HU	
3D-GGO	1.5 × 1.5 cm 0.59 × 0.59 in	-590	-	-	-

Bronchoscopy-compatible N-1 Lungman with Pulmonary Vessels



Lungman phantom with an open bronchus for bronchoscope



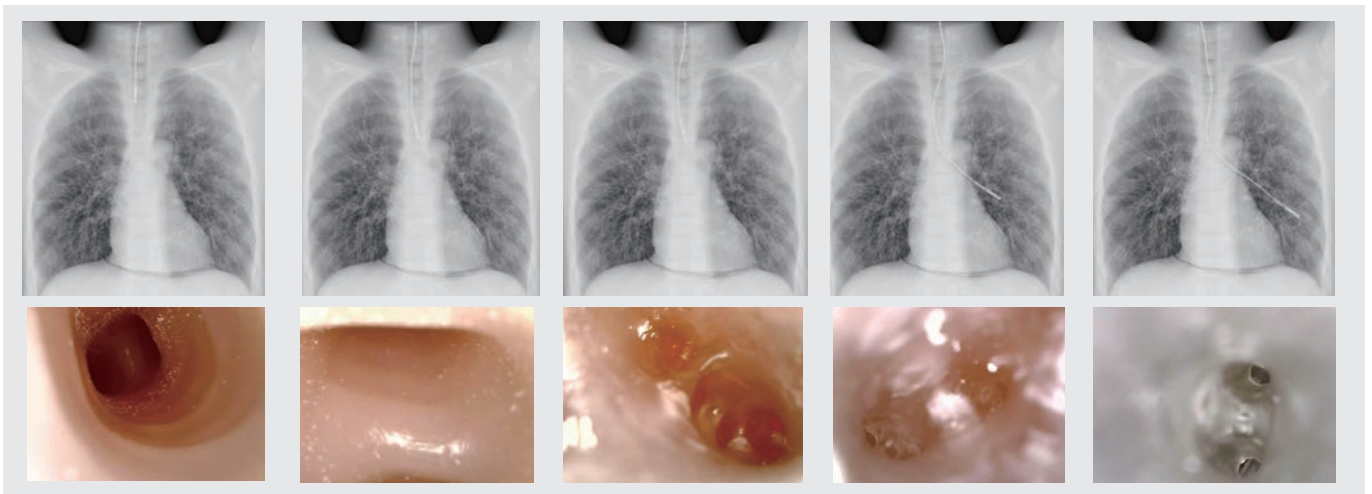
FEATURES

- | Close to human medical images under X-ray, CT, and fluoroscopy
- | The trachea and bronchi are hollow so that the bronchoscope can be passed into the airway up to the 4th~5th branches.
- | Optional chest plates to simulate X-ray absorption of a larger body type.

APPLICATIONS

- | CT
- | Plain X-ray
- | Fluoroscopy

Radiograph and bronchoscopic view



DESCRIPTIONS

SPECIFICATIONS

Phantom size:
W43×D20×H48 cm, chest girth 94 cm
W17×D8×H18 in, chest girth 37 in

Phantom weight:
18 kg / 39.6 lb

Packing size:
W63×D50×H29 cm
W24.8×D19.7×H11.4 in

Packing weight:
25 kg / 55.1 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)
*Phantom has no metal parts or liquid structure

PH-1C | 41337-300 / 41337-400

Pediatric Chest Phantom

Dosimetry

CT

X-ray



A phantom representing a five-year-old for practicing and performing imaging and dosimetry



SHOW MORE!



FEATURES

- | Two types of interchangeable lung inserts are included
-lung vascular insert and lung density insert
- | Pencil-shaped ion chamber for CTDI can be set in the mediastinum
- | TLD or RPL dosimeters can be set in the thyroid block and the lung density insert
- | Detachable internal structure allows insertion of variety of pathologies and targets

APPLICATIONS

- | CT
- | Plain X-ray
- | Dosimetry
- | Radiographic interpretation

ANATOMY

Rib, clavicle, spine, mediastinum, scapula, sternum and *pulmonary vessel

*lung vascular insert only

TLD or RPL dosimeters can be set in the thyroid block



DESCRIPTIONS

SET INCLUDES

1 five-year-old chest torso	1 set of sample images
1 lung vasculature insert: mediastinum with pulmonary vessels	1 storage case
1 lung density insert: mediastinum, lung fields (L · R)**	1 manual

** 41337-300 only

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
 Synthetic bone: epoxy resin (density: 1.52)
 *Phantom has no metal parts or liquid structure

SPECIFICATIONS

Phantom size:	Packing size:
W32×D17×H38 cm	W51×D43×H45 cm
W12.6×D6.7×H15 in	W20×D17×17.7 in
Phantom weight:	Packing weight:
6 kg / 13.3 lb	14 kg / 30 lb

PH-8 | 41507-000

Lung Cancer Screening CT Phantom LSCT001

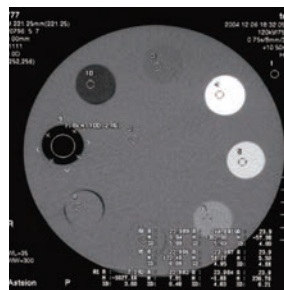
Dosimetry

CT

Chest phantom for standardization studies in low dose lung cancer CT screening
Anthropomorphic structure provides life-like images



SHOW MORE!



FEATURES

- | Simulated GGO type tumors with different sizes and HU numbers are prepared in the vicinity of three main sections of bilateral lungs
- | Dosimeter holder on the central axis of the phantom allows housing a pencil-type ion chamber. 8-step cylindrical linearity phantom to control density curve as a scale can be attached to the chest phantom base

APPLICATIONS

- | CT image quality evaluation
- | Dosimetry
- | Evaluation of density curve

ANATOMY

- | Bones
- | Lungs
- | Mediastinum
- | Simulated tumors at three lung areas
 - Apical portion of the lungs
 - Bifurcation of the trachea
 - Base of lungs

Simulated tumors

	HU contrast with the lung back ground	size	materials
tumors in the right lung	Δ HU=100	4, 6, 8, 10, 12 mm dia. 0.16, 0.24, 0.32, 0.39, 0.47 in dia.	urethane resin
tumors in the left lung	Δ HU=270	2, 4, 6, 8, 10 mm dia. 0.08, 0.16, 0.24, 0.32, 0.39 in dia.	urethane resin

Linearity phantom targets

	HU contrast with the lung back ground	materials		HU contrast with the lung back ground	materials
A	-1000	air	E	-200	polyurethane
B	-850	polyurethane	F	100	polyurethane
C	-600	polyurethane	G	250	Bakelite
D	-400	polyurethane	H	350	polyacetal resin



DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------|------------------------|
| 1 chest phantom | 1 adjustment base |
| 1 8 step linearity phantom | 1 set of sample images |
| 1 urethane cylinder | 1 manual |

SPECIFICATIONS

Phantom size:
 W44×H69.4 cm
 W17.3×H27.3 in

MATERIALS

Chest wall: human tissue substitute
 Bones: synthetic bones
 Alveoli: styrene foam and urethane foam

PUBLICATION REFERENCES

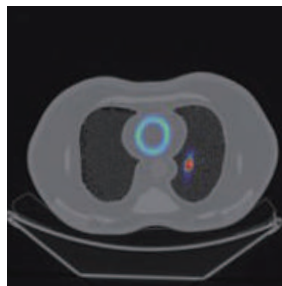
Muramatsu, Y., Tsuda, Y., Nakamura, Y., Kubo, M., Takayama, T., & Hanai, K. (2003). The Development and Use of a Chest Phantom for Optimizing Scanning Techniques on a Variety of Low-Dose Helical Computed Tomography Devices. Journal of Computer Assisted Tomography, 27(3), 364-374. doi:10.1097/00004728-200305000-00012

PH-63 | 41927-000

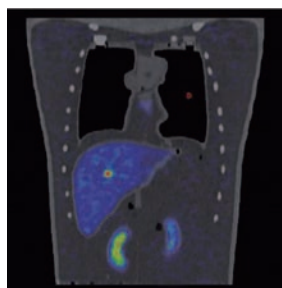
PET/ SPECT

Thorax Phantom for RI

Thorax Phantom for RI is an optimal tool for study in nuclear medicine



SHOW MORE!



FEATURES

Examination of myocardial density through SPECT imaging

- | Verification of myocardial imaging with the use of various RI solution densities
- | Myocardial infarction can be depicted
- | By filling RI solution into the lungs, liver and kidneys, the effect of these organs on the heart can be recreated.

Examination of RI solution density for simulated tumors

- | The simulated tumors can be inserted into lung, liver and breast
- | Tumors can be filled with FDG/RI solution into the spheres for evaluation of density, size and placement

APPLICATIONS

- | PET
- | Quality management of NM equipment
- | RI solution density for tumor imaging

ANATOMY

- | | |
|---|---------------------------------|
| Liver | Heart |
| Lung (right/left) | - Anatomical type: |
| Kidney (right/left) | right ventricle, left ventricle |
| Hot spots (liver, lungs and breast) | and myocardium |
| * Hot spot for PET can be set in liver, lungs and breast. | - Geometric type: |
| | left ventricle and myocardium |

- HU** | Bone: 370HU
 | Lung: -900HU
 | Organ shell material: 100HU, and 1.16g/cm³ in density

DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------|--------------------------|
| 1 thorax body | 1 base |
| 2 lungs (left and right) | 6 plastic pins |
| 4 hearts | 6 supporting bars |
| 1 liver | 4 metal frame |
| 2 kidneys (left and right) | 1 silicon sealing gasket |
| 1 rib cage and spine | 3 tubes |
| 2 breasts (left and right) | 1 syringe |
| 3 hot spots | 12 nuts and bolts |
| 2 aorta | 1 water tank |
| 1 beaker | 1 Vaseline manual |

MATERIALS

Soft tissue: transparent polyurethane
 Lungs: materials with density 0.4 g/cm³
 Bone materials: Calcium-infused material to provide proper attenuation with use of RI solutions

SPECIFICATIONS

Phantom size:	Phantom weight:
W44×H69.4 cm	phantom itself: 21 kg / 46.2 lb
W17.3×H27.3 in	when filled with liquid: 37.5 kg / 82.6 lb

Kyoto Kagaku Anthropomorphic Phantoms

Our Anthropomorphic phantoms provide life-like images and attenuation, which is ideal for educational training applications and help to determine and evaluate optimal scanning parameters.



We provide a variety of anthropomorphic phantoms in order to meet your imaging needs.

	NEWBORN	CHILD (5-year-old)		ADULT		
	Standard	Standard	Variations	Standard		Variations
Plain X-ray	PH-50B:P.5	PH-2C:P.6 PBU-70	PH-2D:P.7 Bone fracture	PH-2B:P.8	PH-2': P.10 PH-60': P.11	PBU-POSE
CT						
Dosimetry						
						PH-2E:P.9 with pathologies

The above matrix chart indicates the most recommended application/modality for use of each phantom and not necessarily means the phantom should exclusively be used with marked modalities.

All the above phantoms can be imaged via both plain radiography (X-ray) and CT.

Differences in included organs or tissue-substitute material means some phantoms have wider use in CT study/training than others.

Body size variations



41350-200-16 (BMI 32)/ 41350-200-17 (BMI 40)

Body Plates

P.31 ▶

For separate anatomy...



PH-61 41926-000-

Sectional Phantom Series

P.43 ▶

Shoulders:

rotate through a full 360 degrees in the sagittal plane, approx. 180 degrees to side-ways.

Hip joints:

rotate forward up to approx. 90 degrees, then abduct up to 45 degrees each.
bend up to approx. 90 degrees.

Elbows and Knees:

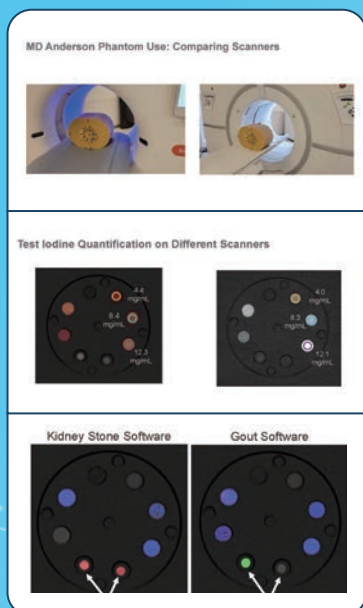
The phantom can be held in the supine frog leg position.

Position of Hands and feet

left hand: aligned fingers
right hand: spread fingers
left foot: plantar flexion
right foot: dorsi flexion



Phantoms in Use Around the World



Use of PH-75 to compare scanners and software applications in a center of **USA**



"Tai-Shan Cup"
Radiographer students around **China** compete with their skills for honor of their schools



Students practicing positioning in X-Ray scanning with Head Phantom, Baekseok Culture University, **Korea**



Installation of PH-75 at Quirón Hospital **Barcelona**



Whole body phantoms are used in radiographer programs across the **North America**



Demonstration of Breast Compression at **ECR2023** using the Compressible Mammography Phantom



The country's first two training phantoms were incorporated in the radiology course of the Central University of **Ecuador** through SDGs Business Verification Survey with the Private Sector of Japan International Cooperation Agency (JICA)



At university of **Sydney** PBU-60 is used in distance learning

PH-50B | 41912-100

Newborn Whole Body Phantom "PBU-80"

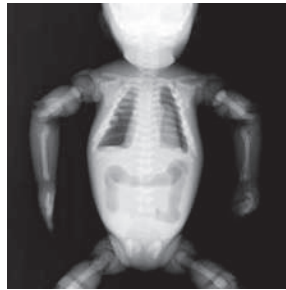
Dosimetry

CT

X-ray



Limbs with articulation for natural positioning



SHOW MORE!



ANTHROPOMORPHIC PHANTOMS

FEATURES

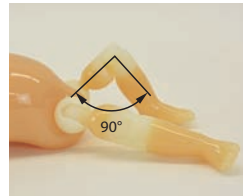
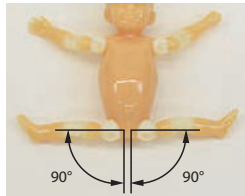
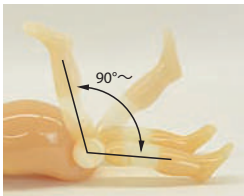
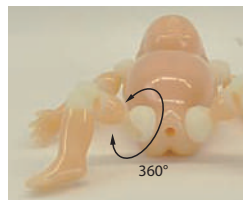
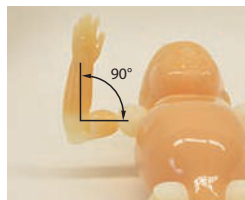
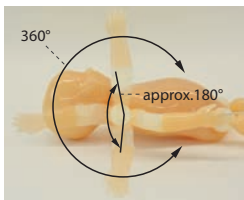
- | Limbs rotate 360 degrees at shoulders and hip joints
- | Left hand is clenched and right hand is open
- | Kyoto Kagaku original human tissue substitute material
- | A hole for an ion chamber
- | HU of average newborn (HU 30)

APPLICATIONS

- | CT and plain X-ray
- | Dosimetry
- | Autopsy imaging
- | Positioning: with / without a poser / upright AP / supine AP / upright lateral / supine lateral

ANATOMY

skull / spine / clavicles / scapulae / ribs / humerus / radius / ulnae / bones of hands / femora / tibiae / fibula / bones of foot / pelvis / lungs / mediastinum / colon



DESCRIPTIONS

SET INCLUDES

- | | |
|-------------------------------------|---------------------------------|
| 1 newborn whole body phantom | 1 insert for the dosimeter hole |
| 1 set of sample CT/X-ray data (DVD) | 1 manual |
| 1 storage case | |

MATERIALS

Soft tissue: urethane based resin (density: 1.07)
 Synthetic bone: epoxy resin (density: 1.31)
 *Phantom has no metal parts or liquid structure

SPECIFICATIONS

Phantom size: 53 cm 20.8 in	Phantom weight: 3.5 kg / 7.7 lb	Packing size: W57×D44×H29 cm W22.4×D17.3×H11.4 in	Packing weight: 8 kg / 17.6 lb
-----------------------------------	------------------------------------	---	-----------------------------------

PH-2C | 41350-300

Pediatric Whole Body Phantom "PBU-70"

CT

X-ray

This phantom representing a five-year-old child is easy to position,
and provides complete bone images for every joint



SHOW MORE!



FEATURES

- | Radiology absorption and HU number approximate to human body
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | Plain X-ray
- | CT
- | Basic patient positioning

ANATOMY

Bony Structure

skull / spine / clavicles / scapulae / ribs / sternum / coxal bones / humerus / antebrachial bone / bones of hand / femur / patella / lower leg bone / bones of foot

HU numbers of each organ:

liver 70
kidney 30

Internal organs

lung with pulmonary vessels / trachea (up to primary bronchi) / heart / liver with portal and hepatic veins

Position of Hands and feet

left foot : plantar flexion
right foot : dorsiflexion
left hand : aligned fingers
right hand : spread fingers

DESCRIPTIONS

SET INCLUDES

1 pediatric whole body phantom	1 screwdriver
1 head supporter	1 set of sample X-ray data (DVD)
1 hand fixture belt	1 manual

SPECIFICATIONS

Phantom height: 110 cm
43.3 in
Packing size: W86×D60×H32 cm
W33.8×D23.6×H12.6 in
Phantom weight: 20 kg / 44 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)
Skull: epoxy resin (density: 1.11)
*Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-080 storage case for PH-2C / 2D

PUBLICATION REFERENCES Söderberg, M., & La, S. (2013). Evaluation of adaptation strengths of CARE Dose 4D in pediatric CT. SPIE Medical Imaging, 9-14. doi:10.1117/12.2001694

PH-2D | 41350-500

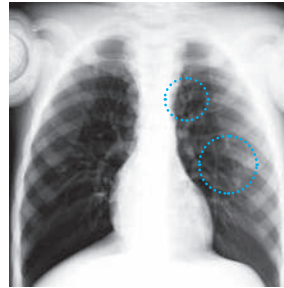
CT

X-ray

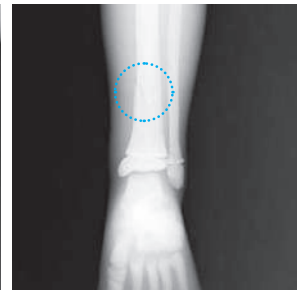
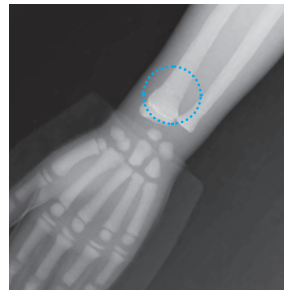
Bone Fracture Pediatric Phantom "PBU-70B"

Improve skills in detecting bone fractures in children and cultivate awareness of child maltreatment.

ANTHROPOMORPHIC PHANTOMS



SHOW MORE!



FEATURES

- | Training in pediatric radiography can be enriched with clear and subtle bone fractures
- | Typical fractures resulting from child abuse are also included
- | Radiology absorption and HU number approximate to human body
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | Plain X-ray
- | CT
- | Basic patient positioning
- | Radiographic interpretation

CONCEPT and ANATOMY - Is there sign of abuse?

Child maltreatment

Children around the world are victims to domestic violence and abuse, yet the problem is often overlooked. Noticing the signs of an abusive fracture of a child is the first step to putting an end to these maltreatments.

This phantom has been designed and developed to cultivate such observation skills in future radiologists and radiographers.

Signs of callus	A number of callus examples can be a result of abusive treatment. This particular model contains calluses in the wound healing phase 5.
Supracondylar humerus fracture	A supracondylar humerus fracture on the distal humerus above the epicondyles and is a fracture commonly observed in children, accounting for approximately 20%.
Spiral fracture	Certain causes of non-accidental pediatric injuries, such as spiral fractures, include maltreatment stimulated by anger or distress.
Back, scapula and rib fractures	Rib fractures close to the vertebrae may be potential indicators of the child being thrown.
Skull fractures	A linear skull fracture may be another indication of child maltreatment. At times, fractures display better on x-ray scans than CT imaging.

DESCRIPTIONS

SET INCLUDES

1 pediatric whole body phantom	1 screwdriver
1 head supporter	1 set of sample X-ray data (DVD)
1 hand fixture belt	1 manual

SPECIFICATIONS

Phantom height:
110 cm 43.3 in
Phantom weight:
20 kg / 44 lb
Packing size:
W86×D60×H32 cm
W33.8×D23.6×H12.6 in

REPLACEMENT PARTS

41350-500-01	Head for PH-2D with head stand
41350-500-02	Forearm-hand left for PH-2D (Closed fingers)
41350-500-03	Upper Arm left for PH-2D
41350-500-04	Trunk for PH-2D
41350-500-05	Thigh left for PH-2D
41350-500-06	Leg and foot left for PH-2D

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)
Skull: epoxy resin (density: 1.11)

*Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-080 storage case for PH-2C / 2D

PUBLICATION REFERENCES

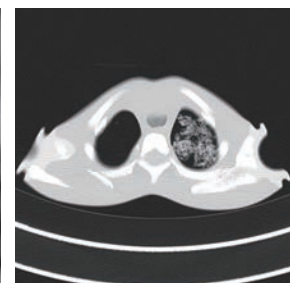
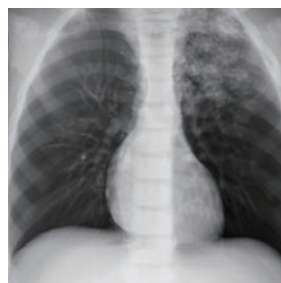
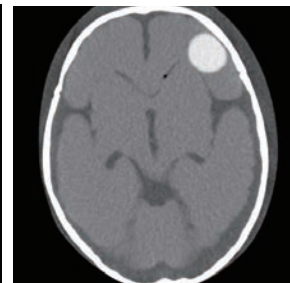
L. J. O. Lanca¹, M. W. Bowdler, J. Creedon, V. Dayer, N. Stensholt, V. Stuivenberg, S. Pinhao¹, M. Visser, J. Jorge, Paediatric phantom dose study using digital radiography with variation of exposure parameters and filtration ECR2018 C-0986 DOI: 10.1594/ecr2018/C-0986

CT Pediatric Whole Body Phantom with Pathologies

CT

X-ray

Whole body phantom including key pathologies for pediatrics such as pneumonia



FEATURES

- | Includes organs and key pathologies for pediatric patients
- | Radiology absorption and HU number approximate to human body
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | Plain X-ray
- | CT
- | Basic patient positioning

ANATOMY and PATHOLOGIES

Bony Structure

skull / spine / clavicles / scapulae / ribs / sternum / coxal bones / humerus / antebrachial bone / bones of hand / femur / patella / lower leg bone / bones of foot

HU numbers of each organ:

brain 40
liver 70
kidney 30

Internal organs

brain/lung with pulmonary vessels / trachea (up to primary bronchi) / heart / liver with portal and hepatic veins

Pathologies:

brain tumor (HU130)
pneumonia

DESCRIPTIONS

SET INCLUDES

1 pediatric whole body phantom	1 screwdriver
1 head supporter	1 set of sample X-ray data (DVD)
1 hand fixture belt	1 manual

SPECIFICATIONS

Phantom height: 110 cm
43.3 in
Packing size: W86×D60×H32 cm
W33.8×D23.6×H12.6 in
Phantom weight: 20 kg / 44 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)
Skull: epoxy resin (density: 1.11)
*Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-080 storage case for PH-2C / 2D

PH-2B | 41350-200

CT Whole Body Phantom "PBU-60"

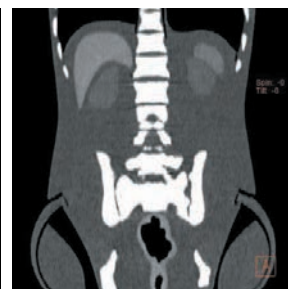
CT

X-ray

A unique, life size whole body phantom for CT provides a variety of educational application as well as visual evaluation in finding out optimal scanning conditions



SHOW MORE!



FEATURES

- The phantom includes full internal organs with close-to-human HU for each.
- Radiology absorption and HU number approximate to human body
- Main joints have close-to human articulation
- Phantom can be disassembled into 10 individual parts

APPLICATIONS

- CT
- Plain X-ray
- Basic patient positioning

ANATOMY

Full internal organs

Bony structure

Synthetic skull
Cervical vertebrae
Vertebrae
Clavicles
Ribs
Sternum
Scapula
Coxal bones
Femurs

Internal organs	HU number at 80KeV
Brain	
Cerebrum	40
Mesencephalon	40
Cerebellum	40
Cerebral ventricles	10
Eye balls	20
Arteries with contrast medium (left half only)	250
Lungs	-1000
Pulmonary vessels	8
Trachea	trachea wall: 8 / inside: -1000
Heart	PBU-50: 8 / PBU-60: 40
Liver	70

Internal organs	HU number at 80KeV
Portal and hepatic veins	40
Pancreas	30
Kidneys	30
Gallbladder	20
Spleen	50
Seminal vesicle	25
Aorta	40
Cava	70
Ureter	ureteral wall: 30 / inside: 10
Urinary bladder	10
Prostate	50
Rectum	rectum wall: 70 / inside: -800
Sigmoid Colon	colon wall: 70 / inside: -800

DESCRIPTIONS

SET INCLUDES

1 whole body phantom	1 hand-fixture belt
1 head supporter	1 set of sample CT/X-ray data (DVD)
1 flat head screwdriver	1 manual

SPECIFICATIONS

Phantom height:	Packing size:
165 cm	W92×D57×H38 cm / W36×D22×H15 in
65 in	W90×D63×H22 cm / W35×D25×H8.7 in
	W89×D57×H16 cm / W35×D22×H6.3 in
Phantom weight:	Packing weight:
50 kg / 110 lb	80 kg / 176 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
 Synthetic bone: epoxy resin (density: 1.31)
 Skull: epoxy resin (density: 1.11)
 *Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-070	storage cases (consist of 2 boxes)
41350-200-16	body plates for PH-2/2B (BMI 32)
41350-200-17	body plates for PH-2/2B (BMI 40)

PUBLICATION REFERENCES

Kim, S., & Jung, H. (2013). A Study on Performance of Low-Dose Medical Radiation Shielding Fiber (RSF) in CT Scans. International Journal of Technology, 4(2), 178-187. doi:10.14716/ijtech.v4i2.107

Storage case P.31 ▶

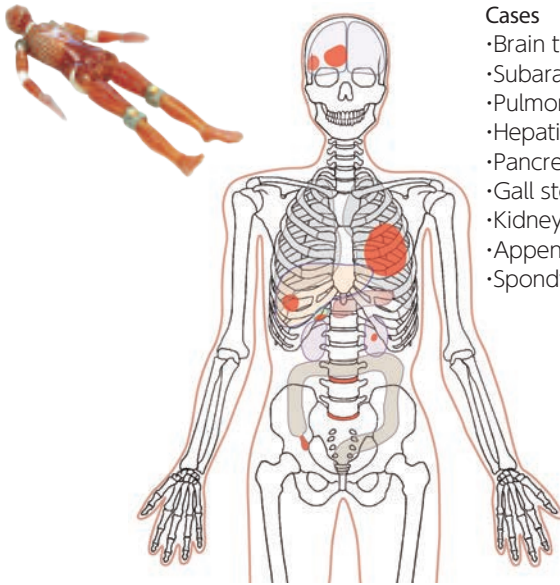
PH-2E | 41350-700

CT Whole Body Phantom with Pathologies

CT

X-ray

Implement theory with practice with pathological findings in this hands-on training phantom

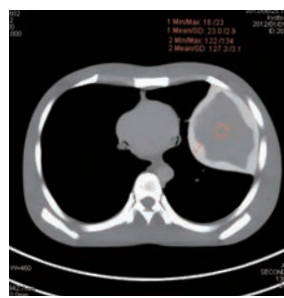


Cases

- Brain tumor
- Subarachnoid hemorrhage
- Pulmonary tumor
- Hepatic tumor
- Pancreatitis
- Gall stone
- Kidney stone
- Appendicitis
- Spondylolisthesis



SHOW MORE!



FEATURES

- | Pathological findings added to detailed anatomy of PBU-60
- | Radiology absorption and HU number approximate to human body
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | CT
- | Plain X-ray
- | Basic patient positioning

ANATOMY and PATHOLOGY

Cases	HU number at 80KeV	Cases	HU number at 80KeV	Cases	HU number at 80KeV
Brain tumor	130	Hepatic tumor	10	Kidney stone	170
Subarachnoid hemorrhage	90	Pancreatitis	30	Appendicitis	inside: 30 / outside: 40
Pulmonary tumor	inside: 30 / outside: 130	Gall stone	170	Spondylolisthesis	-

Full internal organs

Bony structure

Synthetic skull
Cervical vertebrae
Vertebrae
Clavicles
Ribs
Sternum
Scapula
Coxal bones
Femurs

Internal organs	HU number at 80KeV
Brain	
Cerebrum	40
Mesencephalon	40
Cerebellum	40
Cerebral ventricles	10
Eye balls	20
Arteries with contrast medium (left half only)	250
Lungs	-1000
Pulmonary vessels	8
Trachea	trachea wall: 8 / inside: -1000
Heart	PBU-50: 8 / PBU-60: 40
Liver	70

Internal organs	HU number at 80KeV
Portal and hepatic veins	40
Pancreas	30
Kidneys	30
Gallbladder	20
Spleen	50
Seminal vesicle	25
Aorta	40
Cava	70
Ureter	ureteral wall: 30 / inside: 10
Urinary bladder	10
Prostate	50
Rectum	rectum wall: 70 / inside: -800
Sigmoid Colon	colon wall: 70 / inside: -800

DESCRIPTIONS

SET INCLUDES

- | | |
|-------------------------|-------------------------------------|
| 1 whole body phantom | 1 hand-fixure belt |
| 1 head supporter | 1 set of sample CT/X-ray data (DVD) |
| 1 flat head screwdriver | manual |

SPECIFICATIONS

Phantom height: 165 cm
165 cm
65 in

Packing size: W92×D57×H38 cm / W36×D22×H15 in
W90×D63×H22 cm / W35×D25×H8.7 in
W89×D57×H16 cm / W35×D22×H6.3 in

Phantom weight: 50 kg / 110 lb
Packing weight: 80 kg / 176 lb

MATERIALS

Soft tissue: urethane based resin (density 1.06)
Synthetic bone: epoxy resin (density: 1.31)
Skull: epoxy resin (density: 1.11)
*Phantom has no metal parts or liquid structure

OPTIONAL PARTS

- | | |
|--------------|------------------------------------|
| 41363-070 | storage cases (consist of 2 boxes) |
| 41350-200-16 | body plates for PH-2/2B (BMI 32) |
| 41350-200-17 | body plates for PH-2/2B (BMI 40) |

Storage case P.31 ▶

PH-2 | 41350-000

Whole Body Phantom "PBU-50"

CT

X-ray

An essential asset for every radiography program



SHOW MORE!



ANTHROPOMORPHIC PHANTOMS

FEATURES

- | Radiology absorption and HU number approximate to human body.
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | Plain X-ray
- | Basic patient positioning
- | Basic CT

ANATOMY

skull / spine / clavicles / scapulae / ribs / sternum / coxal bones / lungs with pulmonary vessels / trachea (up to primary bronchi) / heart / liver with portal and hepatic veins / kidneys / humerus / antebrachial bone / bones of hand / femur / patella / lower leg bone / bones of foot

Position of Hands and feet

left foot : plantar flexion
 right foot : dorsiflexion
 left hand : aligned fingers
 right hand : spread fingers

DESCRIPTIONS

SET INCLUDES

1 whole body phantom	1 hand-fixtured belt
1 head supporter	1 set of sample X-ray data (DVD)
1 flat head screwdriver	1 manual

SPECIFICATIONS

Phantom height: 165 cm 65 in	Packing size: W92×D57×H38 cm / W36×D22×H15 in W90×D63×H22 cm / W35×D25×H8.7 in W89×D57×H16 cm / W35×D22×H6.3 in
Phantom weight: 50 kg / 110 lb	Packing weight: 80 kg / 176 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
 Synthetic bone: epoxy resin (density: 1.31)
 Skull: epoxy resin (density: 1.11)
 *Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-070	storage cases (consist of 2 boxes)
41350-200-16	body plates for PH-2/2B (BMI 32)
41350-200-17	body plates for PH-2/2B (BMI 40)

PUBLICATION REFERENCES

P. Kaewpookum, M. Kraekratok, C. Thirinthong, a J. Yasamud, T. Siriwiladluk,
 P. Sisot, P. Khayaiwong, The Evaluation of the Correlation between Radiographic Exposure Technique and Entrance Surface Air Kerma using Exposure Index from
 Computed Radiography Ramkhamhaeng International Journal of Science and Technology (2020) 3(2): 24-30

Storage case P.31 ▶

PH-60 | 41925-000

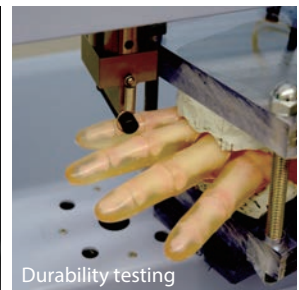
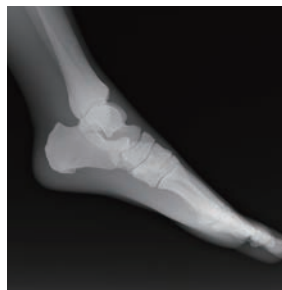
Tough Whole Body Phantom "PBU-90 RUGGED"

CT

X-ray

Designed for rough handling, improved durability and less maintenance

SHOW MORE!



FEATURES

- | Radiology absorption and HU number approximate to human body.
- | Main joints have close-to-human articulation
- | Phantom can be disassembled into 10 individual parts

APPLICATIONS

- | Plain X-ray
- | Basic patient positioning
- | Basic CT

PBU-90 allows training scenarios that involve rough handling. Details of the bones in the hands and the feet are simplified compared to those of PBU-50/60 for increased durability.

ANATOMY

skull / spine / clavicles / scapulae / ribs / sternum / coxal bones / lungs with pulmonary vessels / trachea (up to primary bronchi) / heart / liver with portal and hepatic veins / kidneys / humerus / antebrachial bone / bones of hand / femur / patella / lower leg bone / bones of foot

Position of Hands and feet

left foot : plantar flexion
 right foot : dorsiflexion
 left hand : aligned fingers
 right hand : spread fingers

DESCRIPTIONS

SET INCLUDES

1 whole body phantom	1 hand -fixture belt
1 head supporter	1 set of sample X-ray data (DVD)
1 flat head screwdriver	1 manual

SPECIFICATIONS

Phantom height:	Packing size:
165 cm	W92×D57×H38 cm / W36×D22×H15 in
65 in	W90×D63×H22 cm / W35×D25×H8.7 in
Phantom weight:	W89×D57×H16 cm / W35×D22×H6.3 in
50 kg / 110 lb	Packing weight:
	80 kg / 176 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.12)
 *Phantom has no metal parts or liquid structure

OPTIONAL PARTS

41363-070	storage cases (consist of 2 boxes)
41350-200-16	body plates for PH-2/2B (BMI 32)
41350-200-17	body plates for PH-2/2B (BMI 40)

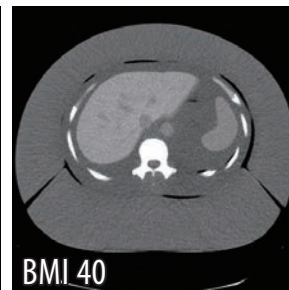
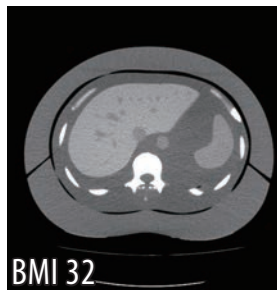
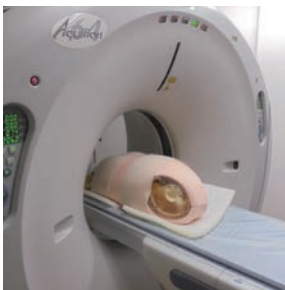
Storage case P.31 ▶

41350-200-16 (BMI 32) / 41350-200-17 (BMI 40)

Optional Parts for PH-2 / 2B / 2E / 60

Body plates

Body plates to simulate a patient of BMI 32 / BMI 40



FEATURES

For studying the effect of patient size on radiation dose and image quality.

DESCRIPTIONS

SET INCLUDES

- 1 body plate (front)
- 1 body plate (back)
- 2 belts

Phantom size with plates:

circumference

Chest : 100cm (BMI 32) , 117cm (BMI 40) / 25.5cm (BMI 32) , 35.5cm (BMI 40)
 Waist : 99cm (BMI 32) , 118cm (BMI 40) / 31.5cm (BMI 32) , 36 cm (BMI 40)
 abdomen : 105cm (BMI 32) , 120cm (BMI 40) / 34.5cm (BMI 32) , 39.5cm (BMI 40)

thickness

SPECIFICATIONS

Phantom size:

front : W67×D37×H26cm(BMI32) W67×D43×H27cm(BMI40)
 back : W66×D36×H12cm(BMI32) W67×D36×H11cm(BMI40)

Packing size:

W77×D48×H40 cm × 2 boxes
 W30.3×D18.9×H15.7 in × 2 boxes

Packing weight:

41350-200-16(BMI 32): 21 kg / 46.3 lb
 41350-200-17(BMI 40): 34.5 kg / 76 lb

MATERIALS

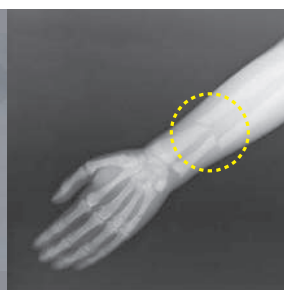
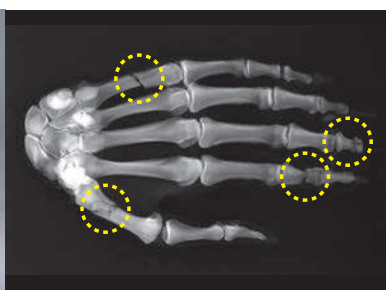
Urethane based resin (density: 1.06)

41350-000-11

Optional Parts for PH-2 / 2B / 2E / 60

Fractured Hand/Forearm Phantom PH-2/2B

X-ray phantom for trauma evaluation



DESCRIPTIONS

Bone Fractures:

ulna, radius, first metacarpal, middle phalanx of the index finger, distal phalanx of the first finger (compressed fracture), fifth metacarpal

SET INCLUDES

- 1 fractured hand / forearm phantom

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
 Synthetic bone: epoxy resin (density: 1.31)

*Phantom has no metal parts or liquid structure



41363-070

Storage case 2 (a pair)

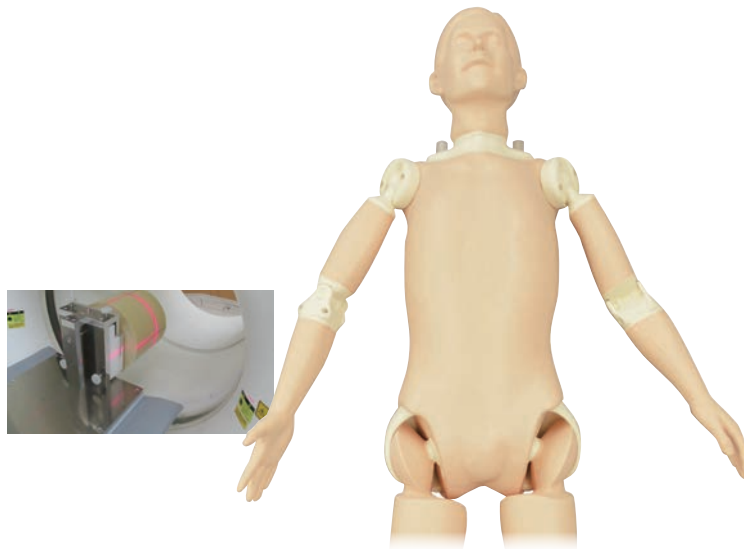
Optional Parts for PH-2 / 2B / 2E / 60

PH-79 | 41945-000

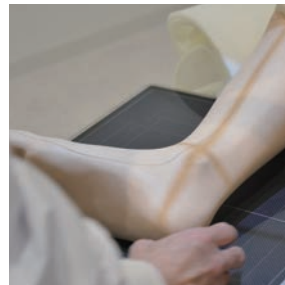
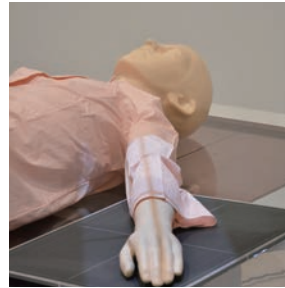
X-Ray Training Phantom PBU-POSE

X-ray

For patient-friendly and accurate positioning learning
Supports scenario based trainings including communication skills



*The wheelchair is not included.



SHOW MORE!



FEATURES

- | Light weight and close-to-human articulation as well as anatomical landmarks for positioning and patient handling.
- | Soft touch of phantom's skin facilitates realistic simulation training scenario including communication skills.
- | Radiography with a lower irradiation reducing risk for trainees and stress on the device.
- | Enables training free from privacy concerns and inconveniences associated with use of standardized patients.

APPLICATIONS

- | Patient positioning
- | Patient transportation
- | Plain radiography



ANATOMY

Skeletal system

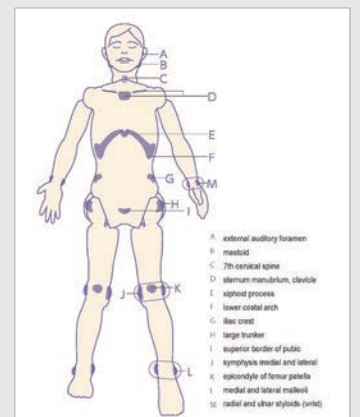
skull, cervical spine, vertebrae, clavicles, scapulae, sternum, pelvis, lungs (no vessels), heart, kidneys, upper and lower arm bones, carpal, metacarpal, femur, kneecaps, lower leg bones, tarsi, metatarsals, phalanges

Internal organs

trachea (up to 1st bifurcation), lungs (diaphragm only), heart, kidneys

Landmarks

external acoustic foramen, mastoid, seventh cervical vertebra, manubrium, xiphisternum, styloid process of radius, superior margin of the symphysis pubis, medial epicondyle of femur/epicondylus lateralis, patella, malleolus (internal condyle /external condyle), subcostal area, landmark on the body surface, trochanter, processus styloideus, ulnae



SET INCLUDES

- | | |
|----------------------|----------------------------------|
| 1 whole body phantom | 1 set of assembly tools |
| 1 head supporter | 1 set of sample X-ray data (DVD) |
| 1 pajamas | manual |

MATERIALS

Soft tissue : polyurethane foam (density 0.2)
 Skeleton : epoxy resin (density 1.31)
 Skull : urethane resin (density 1.12)

SPECIFICATIONS

Phantom dimensions

height:	chest girth : 85cm	(thickness : 20cm)
165 cm/64.9in	33.5in	(thickness : 7.9cm)
weight:	waist girth : 75cm	(thickness : 19cm)
18 kg / 39.69 lb	29.5 in	(thickness : 7.5cm)

Packing size:

W113×D59×H37 cm
 W44.5×D23.2×H14.6 in

PH-4 | 41324-040

CT Torso Phantom CTU-41

CT

X-ray



A one-piece anthropomorphic torso phantom with anatomical structures
Allows various CT approaches including helical scanning



SHOW MORE!



Virtual bronchoscopic view



FEATURES

- One-piece structure of the phantom facilitate study in volume CT scan including helical scan.
- The phantom can be used for alignment in Image Guided Radiation Therapy (IGRT)

APPLICATIONS

ANATOMY

- Synthetic bones with cartilage
- artificial skull, vertebrae, clavicles, ribs, sternum, scapula, coxal bones, femurs

Internal organs		Hounsfield Number	Internal organs		Hounsfield Number
Soft tissue around each organ		8	Liver	Whole	70
Brain	Brain	40		Vein	40
	Ventricles	10	Gallbladder		20
Eye balls		20	Pancreas		30
Aorta		40	Spleen		50
Vena Cava		40	Kidney	Whole	30
Trachea	Up to the first branch	-800		Vein	40
	The second -the third branch	8		Urethra	10
Heart		40	Urethra		10
Pulmonary Blood Vassal		8	Urinary Bladder		10
Cartilage in Costae		90			

DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------------|----------------|
| 1 CT torso phantom | 1 storage case |
| 1 set of sample X-ray data (DVD) | manual |

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
 Synthetic bone: epoxy resin (density: 1.31)

SPECIFICATIONS

Phantom height:	Phantom weight:	Packing size:	Packing weight:
100 cm	45 kg / 99 lb	W119×D53×H48 cm	59 kg / 130lb
39.4 in		W46.9×D20.9×H18.9 in	

PUBLICATION REFERENCES

Haba, T., Kondo, S., Hayashi, D., Takeuchi, A., Ishii, T., Numamoto, H., & Koyama, S. (2012). Effectiveness of the message passing interface method in reducing computation time. 1-3. Paper presented at 19th EGS Users' Meeting in Japan 2012, Tsukuba, Japan.

PH-3

| 41309-100 for CT / 41309-200 for Angio / 41309-300 for MECT

CT

Angio

MECT



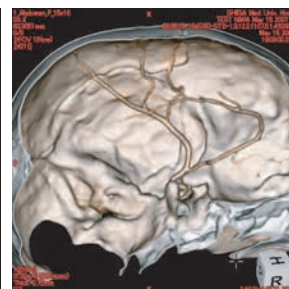
Angiographic CT Head Phantom ACS

Kyoto Kagaku's best-selling head phantom for CT

With new variation: Head Phantom for MECT, which contains arteries of innovative water equivalent material



SHOW MORE!



FEATURES

- Three variations of head phantoms with different features for arteries to meet your requirements:
CT / Angiography / Multi Energy CT
- Contrast-enhanced left cerebral arteries are three-dimensionally embedded in the brain
- Vessels with 13mgI/ml iodine (MECT type)

APPLICATIONS

- CT (41309-100)
- Angiography (41309-200)
- Multi-energy CT (41309-300)

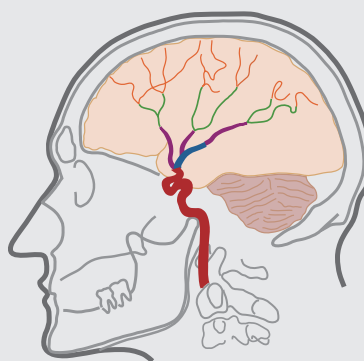
ANATOMY

- A synthetic skull
- Soft tissue
- Simulated arteries with contrast medium
 - Left anterior cerebral arteries
 - Left middle cerebral arteries
 - Internal carotid artery
 - Diameters of simulated 0.5-4.0 mm
 - *Arrangement of arteries are the same for all three types.

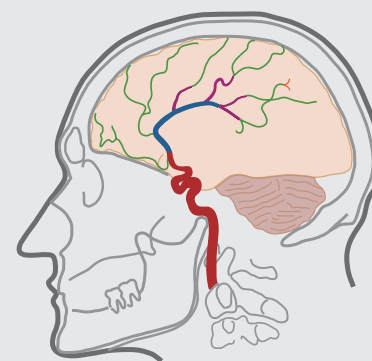
| HU

Soft tissue	0	Cerebellum	40
Cerebrum	40	Cerebral ventricles	10
Mesencephalon	40	Eye balls	20

**calculated value at 80 keV



Middle cerebral artery



Anterior cerebral artery

DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------------|----------------|
| 1 head phantom | 1 storage case |
| 1 set of sample X-ray data (DVD) | manual |

MATERIALS

Soft tissue: urethane based resin
Cervical vertebrae (C1-C7): epoxy resin

SPECIFICATIONS

Phantom height:	Phantom weight:	Packing size:	Packing weight:
33 cm / 13 in	5.25 kg / 11.57 lb	W46×D31×H32 cm / W18.1×D12.2×H12.6 in	8 kg / 17.6 lb

PUBLICATION REFERENCES

Kim C, Park M, Sung Y, Lee J, Choi J, Cho S. Data consistency-driven scatter kernel optimization for x-ray cone-beam CT. Phys Med Biol. 2015 Aug 7;60(15):5971-94. doi: 10.1088/0031-9155/60/15/5971.

PH-77 | 41943-000

CT Stroke Head Phantom KH

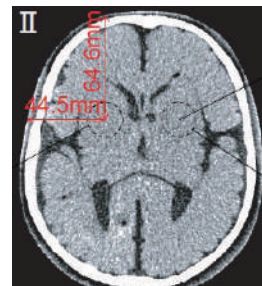
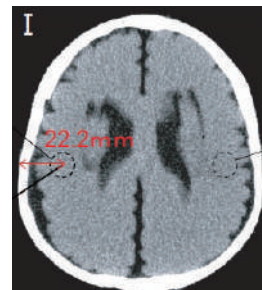
CT



Study and training for early detection of acute cerebral stroke



Product supervision: Hidetake Hara
Department of Radiology,
School of Allied Health Sciences, Kitasato University



SHOW MORE!



FEATURES

- | Sphere shaped simulated lesions (acute stroke) are embedded in the brain.
- | This phantom support study and training in visualizing low-contrast lesions in low energy range

APPLICATIONS

- | CT

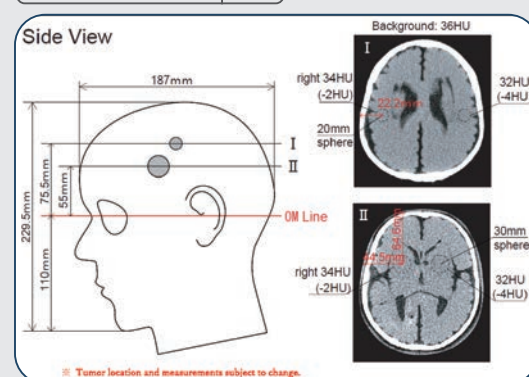
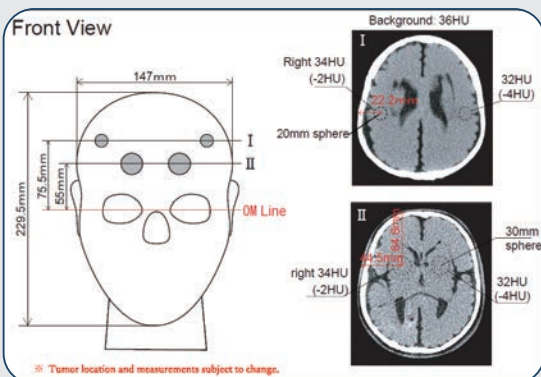
ANATOMY and PATHOLOGY

- | Anatomy
- | A synthetic skull
- | Soft tissue
- | Brain
- | Pathology
- | Acute stroke (20mm dia. x2, 30mm dia. x 2)

IHU (at 60keV)

Soft tissue	0
Cerebrum	36
Mesencephalon	36
simulated lesions (acute stroke)	32 34

Cerebellum	36
Cerebral ventricles	10
Eye balls	20



DESCRIPTIONS

SET INCLUDES

- 1 head phantom
- 1 set of sample X-ray data (DVD)
- 1 storage case manual

SPECIFICATIONS

Phantom height: 33 cm
13 in

Phantom weight: 5.25 kg / 11.57 lb

Packing size: W46×D31×H32 cm
W18.1×D12.2×H12.6 in

MATERIALS

Soft tissue: urethane based resin (density 1.06)
Skull: urethane based resin (density 1.11)
Cervical vertebrae (C1-C7): epoxy resin (density 1.31)



PH-76 | 41301-300 (Two-way set) / 41301-500 (Mouth closed) / 41301-400 (Open mouth)

Dental Radiography Head Phantom

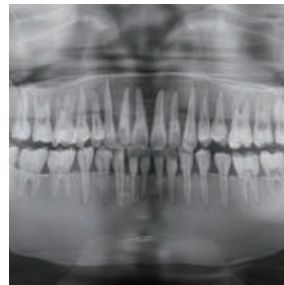
X-ray



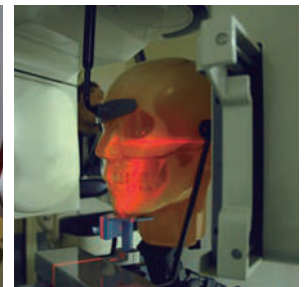
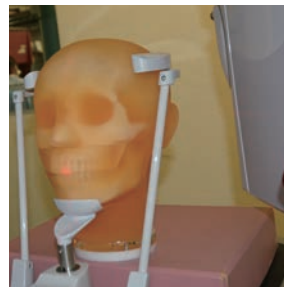
Open / closed mouth options and removable tongue allow a variety of application for training and research



Product supervision:
Akitoshi Katsumata, D.D.S., Ph.D. Professor
Asahi University, School of Dentistry



SHOW MORE!



FEATURES

- Each tooth is separately modeled and has a three-layer structure of enamel, dentin and pulp cavity
- Each hard tissue (enamel, dentin, cortical bone and cancellous bone) has a particular HU number and X-ray absorption rate
- Jaws and tongue are detachable to allow access to the oral cavity, pharyngeal cavity and maxillary sinus. Censors, simulated lesions, or residue can be set in these cavities
- Carotid arteries are prepared as lumens to accommodate simulated calcifications

APPLICATIONS

Dental radiography
panoramic (41301-500)
intra-oral (41301-400)

ANATOMY and PATHOLOGY

Synthetic skull with

- nasal cavity, maxillary sinus, mandible alveolar, maxillary alveolar, cervical vertebrae and hyoid bone, teeth with enamel, dentin and pulp cavity.
- Tongue, oral cavity, pharyngeal cavity and carotid arteries

DESCRIPTIONS

SET INCLUDES

1 main head unit	1 tripod
1 upper jaw (alveolar bone)	1 set of sample X-ray data (DVD)
1 lower jaw (alveolar bone)	1 storage case
1 tongue	1 manual
1 fixation base (including screws)	

SPECIFICATIONS

Phantom size:
W20×D21×H29 cm
W7.8×D8.2×H11.4 in
Phantom weight:
4.8 kg / 10.6 lb

Packing size:
W66×D54×H34 cm
W44×D21×H13.3 in
Packing weight:
12 kg / 26.4 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)

REPLACEMENT PARTS

41301-400-01 lower jaw (mouth opened) for PH-76
41301-500-01 lower jaw (mouth closed) for PH-76

OPTIONAL PARTS

41301-200-01 lower jaw with implant *mouth closed type



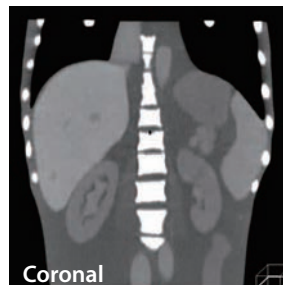
PUBLICATION REFERENCES Kitai N, Mukai Y, Murabayashi M, Kawabata A, Washino K, Matsuoka M, Shimizu I, Katsumata A. Measurement accuracy with a new dental panoramic radiographic technique based on tomosynthesis. Angle Orthodontist. 2013; 83, No 4.
Read more: <http://www.ncbi.nlm.nih.gov/pubmed/22612390>

PH-5 | 41360-000 for CT / 41360-100 for MECT

CT Abdomen Phantom



The phantom facilitates study of image fusion between CT and ultrasound in combination with US-1 Echozy*.
New variation for MECT has been added



SHOW MORE!



FEATURES

- Two variation to meet your requirements:
CT type (no contrast enhancement),
MECT type (vessels with 13mgI/ml** iodine and the liver of multi-energy CT compatible material)

APPLICATIONS

- CT
- Multi energy CT

**Concentration of iodine can be custom-ordered.

ANATOMY

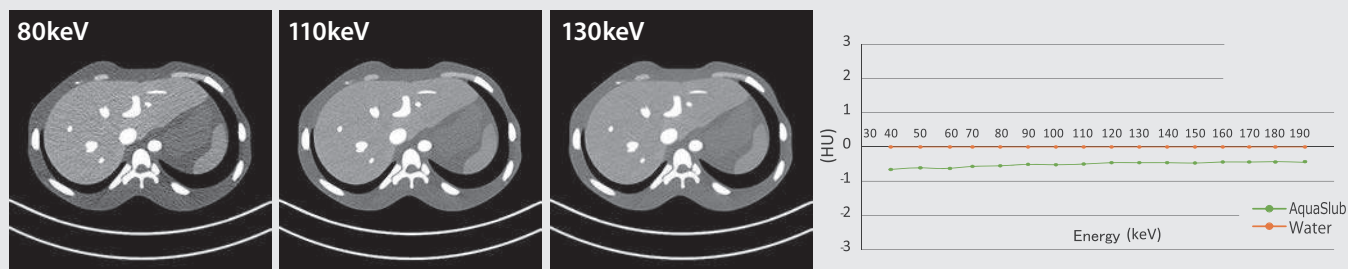
- | | | |
|-------------------------------|----------------|---------------|
| lungs (no internal structure) | hepatic vein | aorta |
| heart (no internal structure) | hepatic artery | IVC |
| liver | kidneys | spinal column |
| portal vein | pancreas | ribs |
| gallbladder | spleen | |

*Vessels and organs with a contrast agent can be included as a special order.

IMAGES of Multi-Energy CT

Liver and contrast enhanced vessels are of multi-energy compatible AquaSlab→see P.28 for more information.

The below right graph shows WEM's high water-equivalency through wide energy range



DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------------|----------------|
| 1 abdomen phantom | 1 storage case |
| 1 set of sample X-ray data (DVD) | manual |

SPECIFICATIONS

Phantom size:
W27×D16×H30 cm
W10.6×D16×H11.8 in

Phantom weight:
12 kg / 26.4 lb

Packing size:
W44×D39×H42 cm
W17.3×D15.3×H16.5 in

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)

Packing weight:
19 kg / 42 lb

US-22 | 41952-000

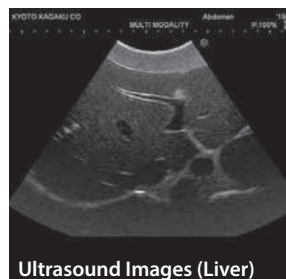
Dual Modality Human Abdomen Phantom (CT, Ultrasound)

Ultra
sound

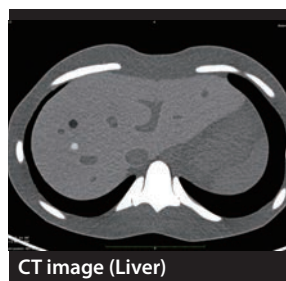
CT

X-ray

This Dual-Modality Phantom is a suitable item to conduct studies and training of fusion imaging for a wide range of clinical applications



SHOW MORE!

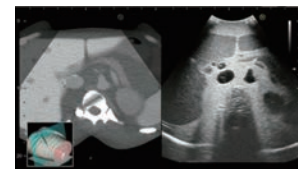


FEATURES

- | Fusion image generation training
- | Mapping for biopsy (invasive procedures are not possible with this phantom)
- | Surgical planning
- | Radiation therapy planning
- | Training for imaging skills in Ultrasound and CT

APPLICATIONS

- | CT
- | Ultrasound



ANATOMY

Liver

(segmental anatomy, portal and hepatic venous systems, ligament, teres and ligamentum venosum)

Biliary tract

(gallbladder, cystic duct, intrahepatic and extrahepatic bile ducts)

Spleen / kidneys

Detailed vascular structures

(aorta, vena cava, celiac artery and its branches, portal vein and its branches, superior mesenteric vessels, renal vessels, and more)

Embedded Targets

	Liver HU70	Gall bladder HU20	Pancreas HU30	Spleen HU50	Kidney (r) HU30	Kidney (l) HU30
anechoic	3 HU50		1 HU10	1 HU10	1 HU10	
hypoechoic	2 HU50					1 HU10
isoechoic	2 HU90		1 HU10			1 HU10
hyperechoic	2 HU90		1 HU10		1 HU10	
double edge	2 HU90					
stone		1 HU170				2 HU170



DESCRIPTIONS

SET INCLUDES

- 1 abdominal phantom
- 1 positioning pillow
- 1 talcum powder
- 1 storage case
- 1 manual

MATERIALS

polyurethane

SPECIFICATIONS

Size: W29×D19×H31 cm
W11.4×7.5×12.2 inch
Weight: 12 kg / 26.5 lbs

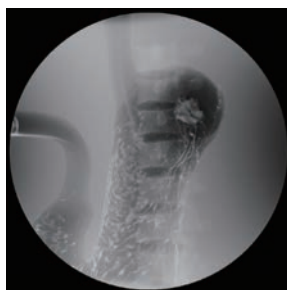
PH-18 | 41311-000

Stomach Phantom BMU-1

X-ray



Stomach phantom for double contrast gastrography



SHOW MORE!



FEATURES

- | Life-size distended stomach with lesions modeled from real specimens
- | Barium can be poured in the stomach for imaging
- | Pathologies include early cancer and gastric ulcer

APPLICATIONS

- | Double contrast gastrography

DESCRIPTIONS

SET INCLUDES

- 1 stomach phantom
- 1 storage case

SPECIFICATIONS

Phantom size: W30×D20×H33 cm
W11.8×D7.9×H13 in

Phantom weight: 16 kg / 35.3 lb

Packing size: W51×D39×H51 cm
W20×D15.3×H20 in

Packing weight: 20 kg / 44 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.31)

PUBLICATION REFERENCES

Fukuda A. [Exposure dose reduction to medical staff during intracoronary radiotherapy with phosphorus-32]. Nihon Hoshasen Gijutsu Gakkai Zasshi. 2003 Aug;59(8):921-6. Japanese. doi: 10.6009/jjrt.kj00000921835.

PH-19 | 41312-010

Rotation Stomach Phantom TMP-R

X-ray



Rotatable phantom to simulate double contrast gastrography



SHOW MORE!



FEATURES

- | Rotation system to simulate the movement of patient
- | Life-size distended stomach with lesions modeled from real specimens
- | Barium can be poured in the stomach for imaging
- | Pathologies include early cancer and gastric ulcer

APPLICATIONS

- | Double contrast gastrography

DESCRIPTIONS

SET INCLUDES

- 1 stomach phantom
- 1 rotation unit
- 1 controller
- 1 supporting pole
- 1 phantom holder
- 1 model of lesions
- 1 storage case

SPECIFICATIONS

Phantom size: W25×D18×H28 cm
W9.8×D7.1×H11 in

MATERIALS

Urethane based resin / epoxy resin

OPTIONAL PARTS

41312-010-01 Extension bar

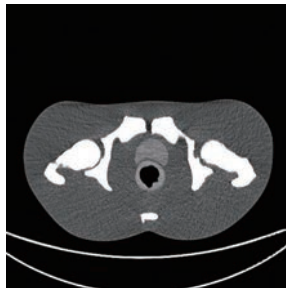
PH-46 | 41362-000

CT Prostate Phantom

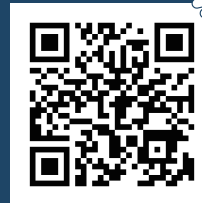
CT



Excellent phantom for therapy planning of prostate cancer



SHOW MORE!



FEATURES

- For alignment in Image Guided Radiation Therapy (IGRT)
- Organs with close-to-human HU facilitate training in CT scanning

ANATOMY

- Prostate, urinal bladder with simulated internal fluid, seminal vesicles and rectum
- Bones: L3, L4 and L5, pelvis and femurs (partial)

APPLICATIONS

CT and Corn beam CT

organs	HU at 80KeV
Prostate	50
Seminal vesicles	25
Bladder surface	30
Bladder inside	10
Rectal surface	70
Rectal inner cavity	-800

DESCRIPTIONS

SET INCLUDES

- 1 phantom
- 1 set of sample X-ray data (DVD)
- 1 storage case
- 1 manual

SPECIFICATIONS

Packing size:	Phantom height:	Packing weight:
W44×D39×H42 cm	35 cm / 13.7 in	27 kg / 59.5 lb
W17.3×D15.3×H16.5 in		

MATERIALS

- Soft tissue: urethane resin (density: 1.06)
- Synthetic bone: epoxy resin (density: 1.31)

PH-71 | 41935-000

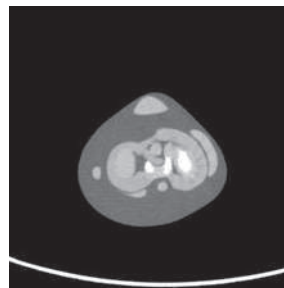
Knee Ligament Phantom

X-ray

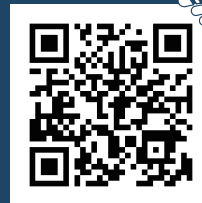
CT



Detailed knee anatomy with HU of each bone, cartilage including meniscus and ligament



SHOW MORE!



FEATURES

- Anthropomorphic knee phantom that allows visualization of ligaments and cartilage
- Close-to-human radiation absorption and HU for each respective anatomical structure as well as realistic artifacts

APPLICATIONS

Plain X-ray
CT

ANATOMY

femur / tibia / fibula / patella / articular cartilage of patella / meniscus / cruciate ligament / medial collateral ligament / fibular collateral ligament / articular cartilage

DESCRIPTIONS

SET INCLUDES

- 1 knee phantom
- 1 storage case
- 1 manual

SPECIFICATIONS

Phantom size:	Phantom weight:
14 dia.×45(H) cm	4.5 kg / 10 lb
5.5 dia.×17.7(H) in	

MATERIALS

- Soft tissue: urethane based resin (density: 1.06)
- Synthetic bone: epoxy resin (density: 1.31)

PH-49 | 41910-000

CT Colonography Phantom NCCS

Dosimetry

CT

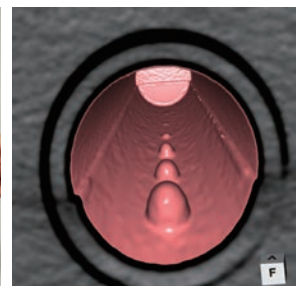


Innovative study tool for safe and effective CT Colon screening

Product supervision:
National Cancer Center (Japan)



SHOW MORE!



FEATURES

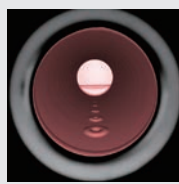
- Cylindrical colon units with targets that represent polyps can be set at the position of ascending colon, descending colon and rectum in the life-size lower torso phantom
- Four types of colon units are included for evaluation. Each unit has six targets lining in sequence on the inner wall of the unit
- Contrast agent can be poured into the colon units for tagging
- Pencil shaped ion chambers can be inserted in the center of the phantom for CTDI measurement

APPLICATIONS

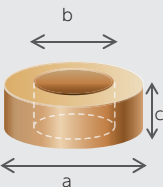
- Virtual colonography
- Visualization and detection of targets
- Study on optimal dose for low dose CT colonography
- Evaluation of accuracy of measurement (size, volume)
- Study on optimal density of contrast media

VARIATION of Simulated Tumors

Depressed type
-2 variations-



Virtual Endoscope View



Depressed I: fixed diameter

a: Outer diameter	b: Inner diameter	c: Height
0.7 cm/ 0.27 in	0.35 cm/ 0.13 in	0.2 cm/0.07 in
		0.15 cm/0.06 in
		0.1 cm/0.03 in
		0.05 cm/0.02 in
		0.025 cm/0.01 in
		0.015 cm/0.005 in

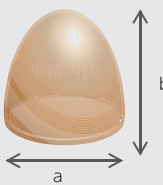
Depressed II: fixed height

a: Outer diameter	b: Inner diameter	c: Height
1.0 cm/0.39 in	0.5 cm/0.2 in	0.1 cm/ 0.03 in
0.7 cm/0.27 in	0.35 cm/0.13 in	
0.5 cm/0.20 in	0.25 cm/0.1 in	
0.3 cm/0.11 in	0.15 cm/0.06 in	
0.2 cm/0.07 in	0.1 cm/0.03 in	
0.1 cm/0.03 in	0.05 cm/0.02 in	

Projection type
-2 variations-



Virtual Endoscope View



Projection I: fixed diameter

a: Diameter	b: Height
1.0 cm/ 0.4 in	0.7 cm/0.27 in
	0.5 cm/0.20 in
	0.3 cm/0.11 in
	0.2 cm/0.07 in
	0.1 cm/0.03 in
	0.05 cm/0.02 in

Projection II: fixed ratio

a: Diameter	b: Height
1 cm/0.4 in	1.0 cm/0.39 in
0.7 cm/0.27 in	0.7 cm/0.27 in
0.5 cm/0.2 in	0.5 cm/0.20 in
0.3 cm/0.11 in	0.3 cm/0.11 in
0.2 cm/0.07 in	0.2 cm/0.07 in
0.1 cm/0.03 in	0.1 cm/0.03 in

DESCRIPTIONS

SET INCLUDES

1 lower torso phantom	1 plug for ion chamber hole
1 acrylic container	1 holder for colon unit
4 types of colon units	1 base holder
3 plugs for colon unit hole	1 storage case
1 plug with ion chamber hole	1 manual

SPECIFICATIONS

Packing size:
W63×D50×H29 cm
W24.8×D19.6×H11.4 in

Packing weight:
32 kg / 70.5 lb

MATERIALS

Soft tissue: urethane based resin (density: 1.06)
Synthetic bone: epoxy resin (density: 1.31)

PH-51 | 41913-000

Lumbar Spine Fluoroscopy Training Phantom



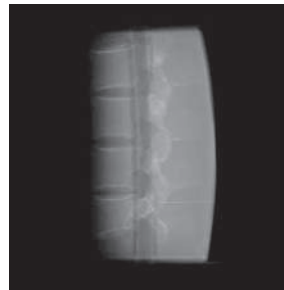
Ideal training tool for hands-on workshop of vertebroplasty
The phantom has two types of interchangeable and replaceable inserts with radio-opaque lumbar spine

Product supervision:

Dr. David Wilson MBBS, BSc, MFSEM, FRCP, FRCR
 Consultant Radiologist St Luke's Hospital Oxford
 Senior Clinical Lecturer University of Oxford



SHOW MORE!



"I have tested the final product with various different manufacturing kits and would have no hesitation in recommending these phantoms to clinicians who wish to teach any of the technical vertebroplasty procedures."

DR DAVID J WILSON MBBS BSc MFSEM FRCP FRCR
 CONSULTANT MUSCULOSKELETAL INTERVENTIONAL RADIOLOGIST

FEATURES

- | Two types of replaceable training block vertebroplasty block and anesthesia block
- | Lumbar spine from L2-L5 can be visualized under X-ray.
- | Realistic sensation when penetrating tissue and bones

TRAINING SKILLS

- | Recognition of fluoroscopic anatomy and landmarks
- | Vertebroplasty
- | Fluoroscopy guided epidural anesthesia: needle placement in facet joint injection, root block and discogram.

ANATOMY

- | Lumbar spine (L2-L5)
- | Spinal canal
- | Epidural space (anesthesia block only)

DESCRIPTIONS

SET INCLUDES

- | | |
|------------------------|------------------|
| 1 lumbar torso | 1 syringe |
| 1 vertebroplasty block | 1 irrigation bag |
| 1 anesthesia block | 1 storage case |
| 1 skin cover | manual |

MATERIALS

Soft tissue: urethane based resin (vertebroplasty block)
 silicone (anesthesia block)
 Synthetic bone: epoxy resin

SPECIFICATIONS

Phantom size:	Packing size:
W33×D21×H30 cm	W52×D44×H30 cm
W13×D8.2×H11.8 in	W20.4×D17.3×H11.8 in

REPLACEMENT PARTS

41913-000-01	anesthesia block
41913-000-02	vertebroplasty block
11348-150	skin cover

RELATED PRODUCTS



M43E / 11348-500 Ultrasound Compatible Lumbar Puncture/Epidural Simulator
 | Ultrasonic anatomy and needle access training



PH-61 | 41926-000-

Sectional Phantom Series

X-ray

Sectional phantoms allow for imaging of individual anatomy as needed



SHOW MORE!



FEATURES

- Opaque and transparent types for a diverse training possibility
 - Opaque: advanced version with close-to-reality challenges in imaging
 - Transparent: visible bones facilitate understanding in keys for positioning
- Movable joints of the knee and the elbow for realistic positioning

APPLICATIONS

- Plain X-ray

ITEMS

REGION	NO.	PRODUCT NAME	NOTE
	41926-000	Head (Opaque)	Stand-alone design can be used with the adjustable head positioning stand to demonstrate accurate skull positioning
	41926-010	Head (Transparent)	
	41926-060	Thorax (Opaque)	Includes thoracic skeletal system with embedded mediastinal space and bronchus to provide realistic imaging. The scapulae are rotated outside of the lung fields for PA chest imaging *Capillaries are not included
	41926-070	Thorax (Transparent)	
	41926-080	Pelvic (Opaque)	
	41926-140	Right Elbow (Opaque)	Natural flexion range allows for AP/lateral and partial flexion views with one phantom
	41926-150	Right Elbow (Transparent)	
	41926-020	Right Hand (Opaque)	Spread fingers for PA projection
	41926-030	Right Hand (Transparent)	
	41926-040	Left Hand (Opaque)	Oblique position AP oblique projection
	41926-050	Left Hand (Transparent)	
	41926-180	Right Knee (Opaque)	Movable patella and joint with flexion allow for realistic positioning of the knee for AP, lateral, oblique, sunrise and tunnel views
	41926-190	Right Knee (Transparent)	
	41926-100	Right Foot (Opaque)	Dorsiflexion
	41926-110	Right Foot (Transparent)	
	41926-120	Left Foot (Opaque)	Plantar flexion
	41926-130	Left Foot (Transparent)	

DESCRIPTIONS

SET INCLUDES (each)

- 1 phantom
- 1 set of sample X-ray data (DVD)
- 1 manual

*41926-000/010 come with an adjustable head supporter

MATERIALS

Soft tissue: urethane based resin
 Synthetic bone: epoxy resin (density: 1.31)
 Skull: epoxy resin (density: 1.2)
 *Phantom has no metal parts or liquid structure

PH-78 | 41944-000 30mm Cube Set / 41944-100 20mm Cube Set

Radiology Cube Phantom XCUBEFAN

X-ray

Designed for beginners to provide better understanding of the special characteristics seen in radiology imaging

Product supervision:
Keisuke Kondo Associate Professor
Radiological Sciences Komazawa University, Japan



SHOW MORE!



FEATURES

- Compact yet practical education tool on usage of x-ray equipment and the interpretation of diagnostic images
- Provides a large range of practice by stacking and repositioning different blocks with varied radiodensities
- Includes black and clear container boxes for practice and visual explanation

APPLICATIONS

- Plain X-ray
- Interpretation

How it works ?

**Active learning through
FAN (fun)
of competition and game**



Photo by courtesy of Komazawa University, Japan

1. Arrange the cubes

Arrange cubes in the black case and hand it to the challengers.

2. Select parameters and acquire images

The challengers radiograph the black case.

3. Analyze the images

The challengers reason and infer to find out the three dimensional arrangement of cubes in the black case.

Three kinds of cubes with different HU

	HU	Density	Material
Orange	0	1.06	Polyurethane
Blue	500	1.4	Epoxy
Yellow	1000	1.21	Epoxy

DESCRIPTIONS

SET INCLUDES

30mm cube set

- 1 XCUBEFAN case (clear)
- 1 XCUBEFAN case (black)
- 5 orange cube (30mm)
- 5 blue cube (30mm)
- 5 yellow cube (30mm)
- instruction manual

20mm cube set

- 1 XCUBEFAN case (clear)
- 1 XCUBEFAN case (black)
- 10 orange cube (20mm)
- 10 blue cube (20mm)
- 10 yellow cube (20mm)
- instruction manual

SPECIFICATIONS

Phantom dimensions
30mm cube: 3×3×3 cm each
1.18×1.18×1.18 in each
20mm cube: 2×2×2 cm each
0.78×0.78×0.78 in each

Packing size:
W36×D25×H19 cm
W14.2×D 9.8×H 7.5 in

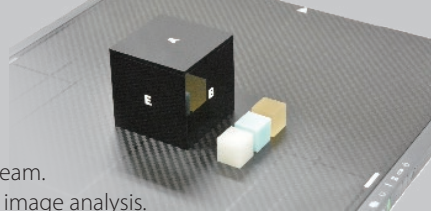
MATERIALS

Phantom cube: epoxy, polyurethane
Case: acrylic

PUBLICATION REFERENCES Keisuke Kondo, Kazuo Shimura, Black Box competition: Radiological technology education using Black Box phantom, The World Radiography Day Conference (rsu.ac.th)

Black Box Contest

Colorful cubes are placed in the black case and exchanged with the competitor team.
The teams compete against each other by predicting the placement of the cubes based on image analysis.



Orientation

15 minutes

- Sharing goals and schedules
- Explanation of XCUBEFAN
- Teaming up with about 3 trainees per group

Necessary items

- ☐ XCUBEFAN
- ☐ X-ray machine
- ☐ Positioning Cushion
- ☐ Light Table
- ☐ Densitometer

Let's learn by
Team Competition!

Preparation Discussing the Placement

45 minutes



- Arrange the cube in the box
- Record the arrangement



Devise challenging arrangement for analysis

Below is the scene of the placement experiment. In the left image, the cubes appear to be the same, but the photo on the right shows that the cubes with various X-ray absorption rates are actually arranged.



Exchange boxes with the competitor team.

Discussing the Scanning Conditions Scanning

60 minutes



■ Discussing the scanning parameters (e.g. FCR)

- Basic parameters: SID100cm/100KV/100mA/0.02s
- Image processing parameters: A gradation (linear gradation)/ S value 100/ L value 2.0
- Number of scans: 9 or less

- Positioning
- Scanning



Set the limit on possible number of scans.

Recommended maximum scans: 9
In clinical practice, it is required to have skills to efficiently examine the patients with minimal exposure and pressure. Depending on the level of training, establish a limit on the number of imaging sessions.



Image Analysis

60 minutes



- Image analysis using light table and densitometers
- Making solutions



Scoring & Discussion



60 minutes

- Scoring and awarding high-scoring teams
- Group Discussion

In radiology education, XCUBEFAN was finally completed with the aim of creating educational content that fosters creativity, thoughtfulness, and teamwork skills using specialized knowledge, similar to a "Robot Contest". Students seriously look at the images, think about them, and discuss them within the team, which is active learning itself.

XCUBEFAN is an educational material that can be applied to other educational activities besides the "Black Box Contest". We encourage you to use it in your educational field.



The "Robot Contest" in the World of Radiologic Technologist

Keisuke Kondo, associate professor, Komazawa University

PH-75B | 41941-100 (TR-I) PH-75A | 41941-000 (TR-J)

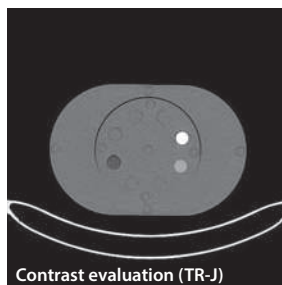
MECT

CT

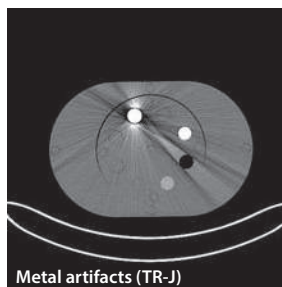
Multi Energy CT Quality Assurance Phantom

Water Equivalent Material "Aqua Slab", various inserts and empty bottles enable to verify the appropriate Multi-Energy CT settings

Co-developed with:
 ICHIKAWA Katsuhiro, Ph.D., Professor,
 Faculty of Health Sciences,
 Institute of Medical, Pharmaceutical and Health Sciences,
 Kanazawa University, Japan



Contrast evaluation (TR-J)



Metal artifacts (TR-J)

SHOW MORE!



FEATURES

- | Phantom made of innovative water equivalent material "Aqua Slab"
- | Empty bottles allow for the insertion of various research samples and observation under Multi-Energy CT
- | Help to save time and costs of preparing custom-made phantoms
- | Two different sizes of truck (body) phantom. (TR-I, TR-J)

APPLICATIONS

- | Study for ME-CT image analysis protocol
- | Metal artifact reduction
- | Reduction of contrast media

Inserts

Color	Name	Size	Qty
Silver	Water Equivalent Material Inserts	dia.20mm	8
Red	Titanium Insert	dia.12mm	1
Blue	Soft tissue (equivalent to liver)	dia.20mm	1
Blue	Iodine concentration 4mgI/mL	dia.20mm	1
Blue	Iodine concentration 8mgI/mL	dia.20mm	1
Transparent	Iodine concentration 12mgI/mL	dia.20mm	1
	Water container	dia.20mm	1
	Empty bottle with spacer *for experiment		20

EVALUATION PARAMETERS

- | Uniformity
- | Signal-to-noise ratio (SNR)
- | Image contrast
- | CT dose index (CTDI)

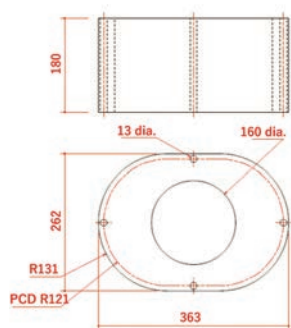
DESCRIPTIONS

SET INCLUDES

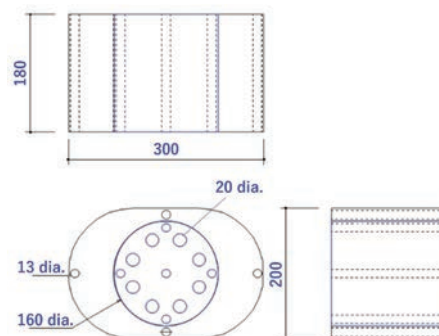
- | | |
|---------------------------------------|-----------------------------|
| 1 truck phantom | 1 soft tissue insert |
| 1 internal cylindrical phantom | 1 water container inserts |
| 9 filling inserts for dosimeter holes | 20 empty bottles |
| 8 "Aqua Slab" inserts | 8 spacers for empty bottles |
| 3 iodine inserts (4, 8, 12mgI/mL) | manual |
| 1 titanium insert | |

SPECIFICATIONS

Phantom size (TR-I):



Phantom size (TR-J):



PH-75C | TR-A

Multi Energy CT Quality Assurance Phantom-TR-A type

MECT

CT

"Aqua Slab" CTQA phantom with equidistance placement of inserts, meeting international recommendation

SHOW MORE!

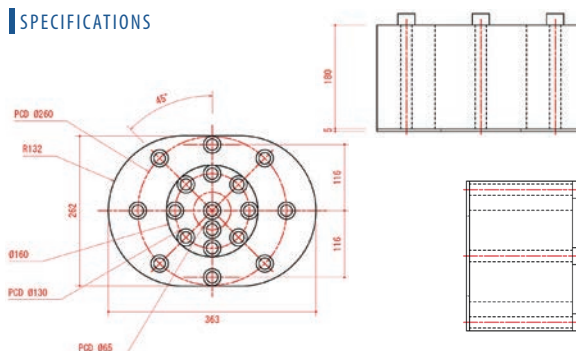


FEATURES

- The sectional areas of the assembled phantom with the truck phantom and the independently used inner phantoms are equal to those of the CTDI body and the head phantom respectively
- The holes to accommodate sample inserts and dosimeters for evaluation are placed concentrically at equidistance from the isocenter, along with the one placed off the center, meeting international recommendation for CTQA

DESCRIPTIONS

SPECIFICATIONS



APPLICATIONS

- Study for ME-CT image analysis, artifact reduction, contrast media

41941-

Optional Rods (Inserts) for PH-75A/B/C

MECT

CT



PH-80 | 41948-000 / 41948-100

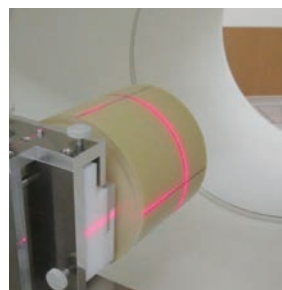
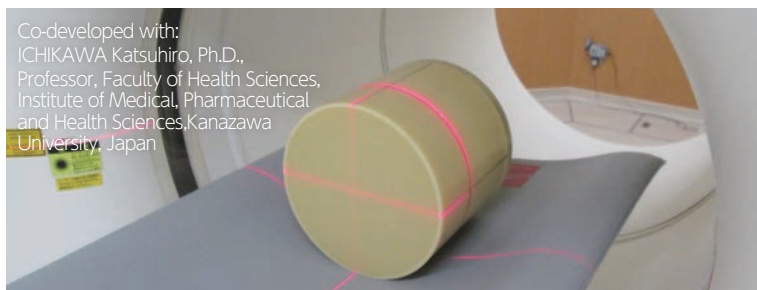
Daily QA Phantom WEM "Aqua Slab"

MECT

CT

Water Equivalent Material "Aqua Slab" updates tasks of daily QA

Co-developed with:
 ICHIKAWA Katsuhiro, Ph.D.,
 Professor, Faculty of Health Sciences,
 Institute of Medical, Pharmaceutical
 and Health Sciences, Kanazawa
 University, Japan



SHOW MORE!



FEATURES

- Phantom made of water equivalent material "Aqua Slab"
- Help to save time and costs of preparing water phantoms for researchers

APPLICATIONS

- Daily QA of CT

DESCRIPTIONS

SET INCLUDES

- 1 aqua slab phantom

MATERIALS

Polyurethane

SPECIFICATIONS

Dimensions: [41948-000] W20×D20×H20 cm
 [41948-100] W20×D20×H21.5 cm
 Weight : 41948-000 / 6.4Kg
 41948-100 / 6.5Kg

Kyoto Kagaku Innovation

"Aqua Slab" Multi-Energy CT Compatible Material

For Quality Assurance and Research

OVERVIEW

Multi-Energy CT (MECT) or Dual Energy CT (DECT) represents a new frontier in rapidly advancing medical imaging and is now being integrated into clinical practices in hospitals.

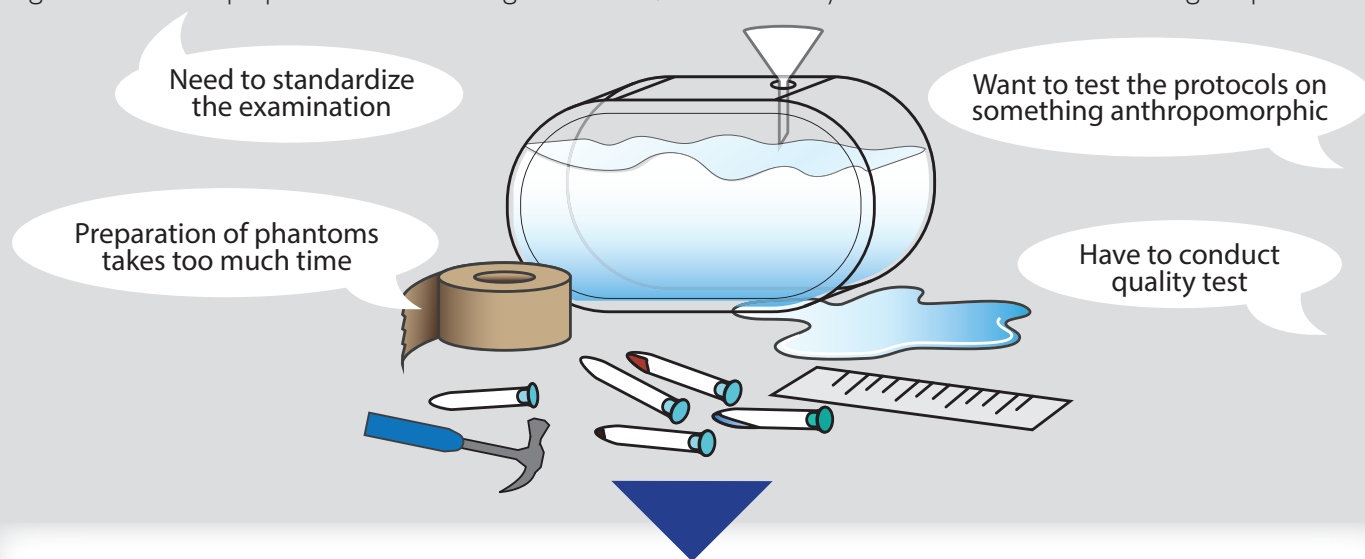
This technology enables material differentiation, elemental decomposition, and material quantification.

Such capabilities are expected to enhance diagnosis, improve image quality, reduce radiation exposure, minimize contrast agent volume, and pave the way for functional imaging. Nevertheless, further studies are needed across various fields, including CT equipment quality management, protocol verification, and expansion of clinical applications, to fully realize the benefits of this technology.

Kyoto Kagaku supports researchers and clinicians with state-of-the-art innovative phantoms.

BACKGROUND

In numerous MECT/DECT studies, water phantoms have been utilized. However, employing real water can entail significant effort in preparation and handling. Meanwhile, the use of acrylic containers restricts the design of phantoms.



Kyoto Kagaku Multi-Energy CT phantom series assists you promptly, saving your time and energy

Phantoms can be made in complex and detailed shapes including anatomical structures

PRODUCT LINEUP

**Iodine concentrations can be custom-ordered
Contact us!**



Angiographic CT Head Phantom ACS
Head with MECT compatible arteries

P.34 ▶

CT Abdomen Phantom
Abdomen with MECT compatible vessels and liver

P.37 ▶



Reference product
Gout Foot Phantom



Multi Energy CT Quality Assurance Phantom

P.46 ▶

Phantom for quality assurance.
A variety of research samples can be inserted.

Daily QA Phantom WEM "Aqua Slab"

P.47 ▶

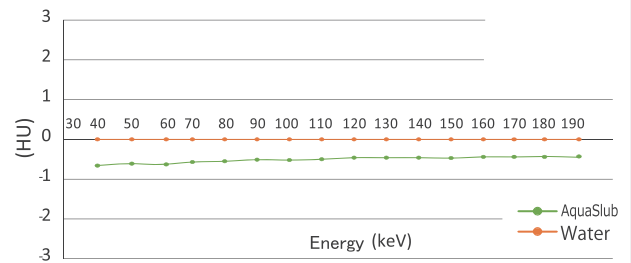


Significant Features of "Aqua Slab"

About "Aqua Slab" Water Equivalent Material

Aqua Slab has high equivalency to water in diagnostic energy ranges(40-190KeV)

Co-developed with; ICHIKAWA Katsuhiro, Ph.D., Professor, Faculty of Health Sciences, Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University, Japan

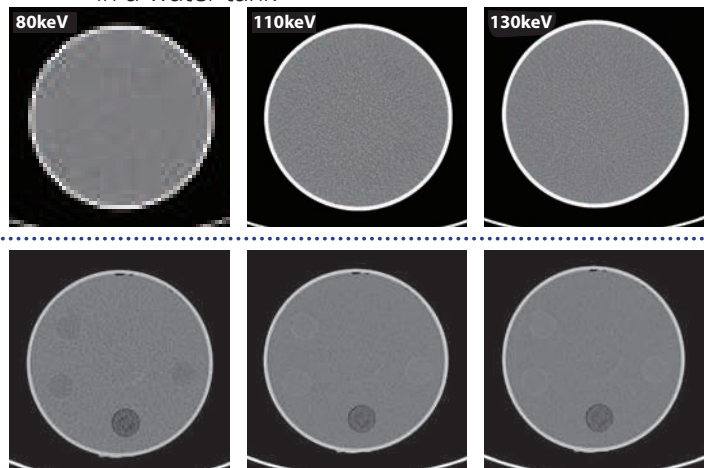


Aqua Slab

Nine rods of AquaSlab are "invisible" under CT

Experiment
Scan different material inserts (rods) in a water tank

Rods are not shown in the CT images!!



conventional materials

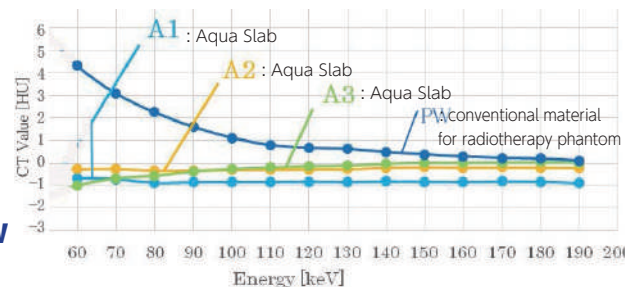
Two rods of Aqua Slab and four rods of conventional materials

Supports iodine quantification and material-decomposition

Unlike conventional 'water substitute' materials, the Aqua Slab maintains water equivalency under low energy ranges. This feature supports studies that involve iodine quantification.

Saves time and effort for research and explore new possibilities.

Helps to save time, costs, and effort instead of designing and producing custom-made acrylic water phantoms. Unlike phantoms that use real water, solid material (Aqua Slab) phantoms eliminate the cumbersome process of changing water and internal rods.



Ryota Matsui, Ishikawa Katsuhiro, Hiroki Kawashima, "Development of highly precise Water Equivalent phantom for CT machine"
Ichikawa Lab, Kanazawa Univ.
<http://ichiken.w3.kanazawa-u.ac.jp/img/file2.pdf>
(cited 2019-05-20)

CONCLUSION

1. Kyoto Kagaku Multi-Energy CT phantoms can save time and costs rather than preparing custom-made phantoms for researchers.
2. The water equivalent material "Aqua Slab" allows for the creation of phantoms with innovative designs while ensuring the credibility of water phantoms.

PH-9 | 41334-100

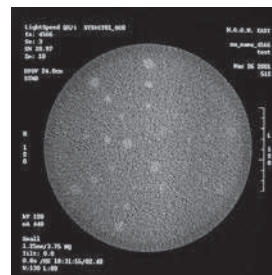
Multi Slice CT Phantom MHT

Dosimetry

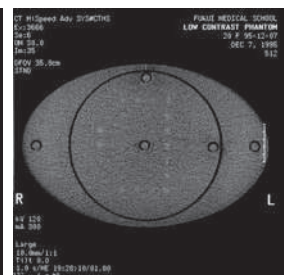
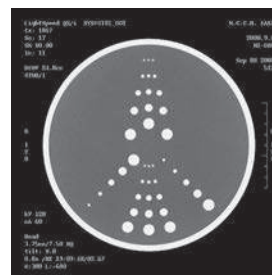
CT



The phantom can be used to evaluate CT features such as high and low contrast resolutions, slice direction, and CTDI.



SHOW MORE!



FEATURES

- Non-aqueous/Easy Set-up enables liquid-free evaluation session
- The phantom is designed to allow evaluation in volume scanning

APPLICATIONS

EVALUATION PARAMETERS

- CTDI
- Contrast resolution
- Contrast-to-Noise Ratio (CNR) evaluation
- Evaluation of effective slice thickness
- Sensitivity profile
- SSPz evaluation

DESCRIPTIONS

SET INCLUDES

- | | |
|----------------------------------|--|
| 1 low contrast phantom | 1 micro disc phantom |
| 1 high contrast phantom | 1 angle adjustment holder (table top type) |
| 1 elliptical absorber | 1 storage case |
| 1 low contrast phantom with CTDI | manual |

MATERIALS

Acrylic resin, polyurethane

OPTIONAL PARTS

41334-110 sliding phantom holder

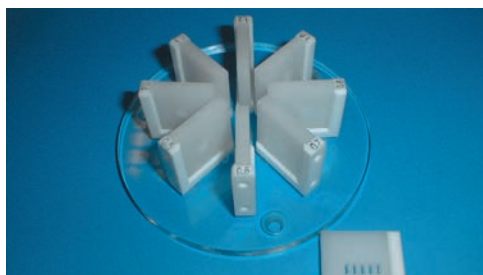
PH-9-2 | 41334-130

Ladder Phantom

CT



Designed for measuring spatial resolution in CT, assuming contrast-enhanced blood vessels



SHOW MORE!



DESCRIPTIONS

SET INCLUDES

- | | |
|-------------------|--|
| 1 outer phantom | 1 angle adjustment holder (table top type) |
| 9 ladder phantoms | |
| 1 storage case | |

SPECIFICATIONS

Vessel width:
0.3, 0.4, 0.6, 0.7, 0.8, 1.0, 1.2, 1.5 mm
0.012, 0.016, 0.024, 0.028, 0.032, 0.039, 0.047, 0.059 in

Vessel length: 5 mm / 0.19 in
(5 mm thick, with 5 lines of vessels each)

MATERIALS

Measurement region: epoxy resin, hydroxyapatite
Base: acrylic resin

PH-55

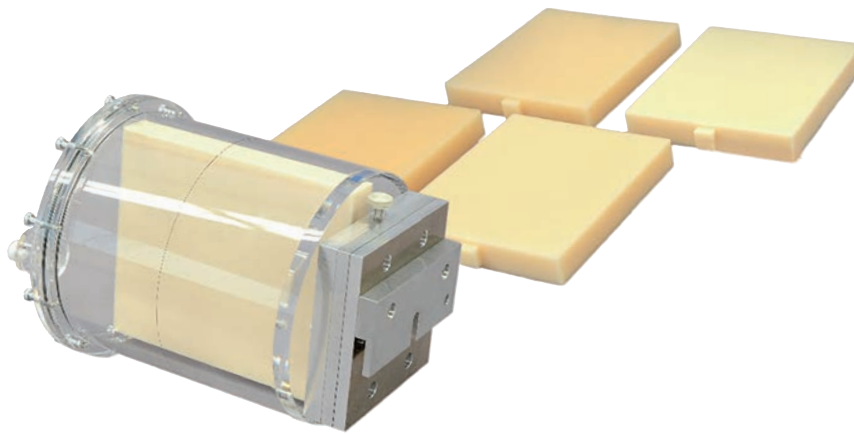
41920-100

CT ERF Phantom HIT

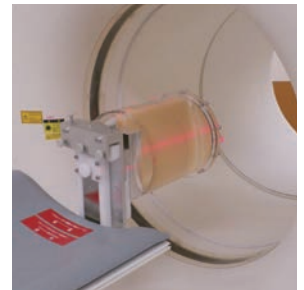
CT



A phantom designed for physical evaluation of iteratively reconstructed images under low CNR



SHOW MORE!



FEATURES

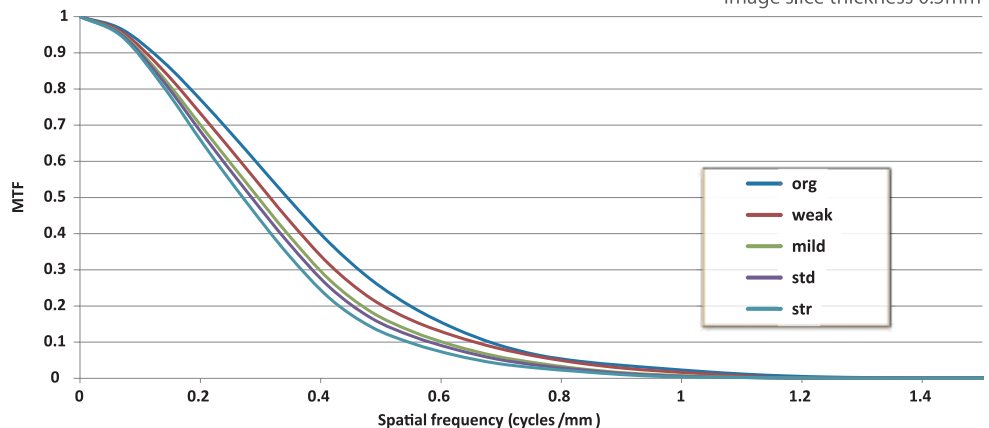
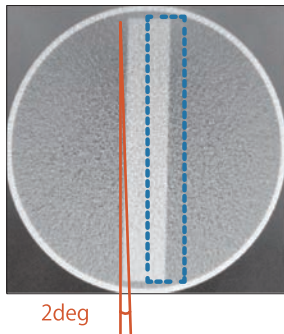
- This phantom designed to physically evaluate the performance of successive approximation reconstruction images under low CNR conditions when MTF evaluation by PSF is not very appropriate without deviating from clinical practice.
- This phantom is used to evaluate MTF from low-CNR images using the ESF method, which measures the blurring of block edges, so that performance characteristics in reconstructed images applying successive approximation under low-CNR conditions can be determined.

APPLICATIONS

CT

▼ Modulation Transfer Function
image slice thickness 0.5mm

▼ Image



DESCRIPTIONS

SET INCLUDES

- | | |
|---------------------------------------|---|
| 1 cylindrical container (200 mm dia.) | 1 fixture for the cylindrical container |
| 5 measurement plates | 1 philips screw driver |
| 1 rotation holder | extra screws |
| 1 petroleum jelly | 1 storage case |
| 1 angle adjustment holder | manual |

SPECIFICATIONS

Phantom size: 20 dia.×25 cm
7.8 dia.×9.8 in

Phantom weight: 4.5 kg / 10 lb

MATERIALS

Acrylic resin, polyurethane

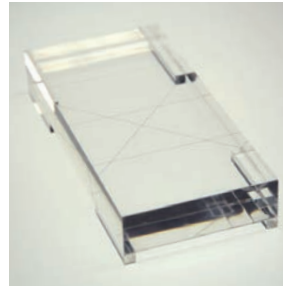


41919-010
Angle adjustment holder (table-top type)
*included in the set
Compatible with PH-9

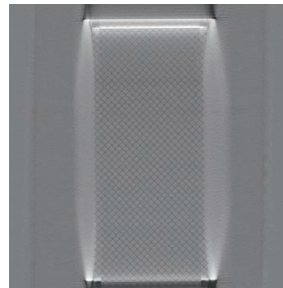
PH-56 | 41921-000

Tomosynthesis Phantom NS

Allowing evaluation of reconstruction slices and uniformity
in the measurement of slice thickness through showing the images numerically and graphically



SHOW MORE!



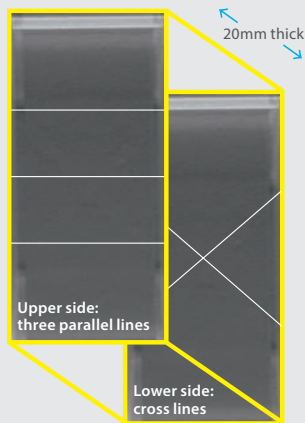
APPLICATIONS

| Tomosynthesis

EVALUATION PARAMETERS

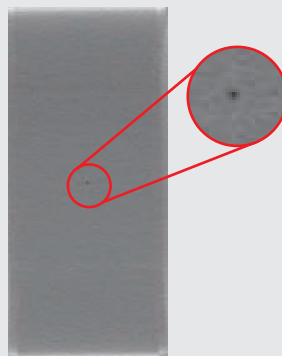
| Verification of reconstruction interval
| Slice thickness
| Uniformity

Reconstruction interval unit



For verification of the spatial interval in reconstruction
Stainless steel line: 0.1 mm/0.004 in dia.

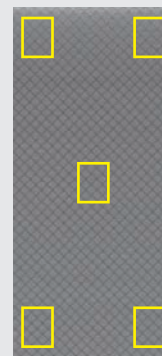
Slice thickness unit



For calculation of slice thickness using FWHM

Hole: 1.0 mm/0.04 in dia.
Aluminum plate: 0.5mm/0.02 in thick
Acrylic plate 5mm/0.2 in thick.
*the aluminum plate is sandwiched between layers of Acrylic
70×150 mm/2.8×5.9 in

Uniformity unit



For evaluation of uniformity and tilting of the examination table
70×150 mm/2.8×5.9 in

Height setting rack



Test units can be set in the aluminum supporting box at 10, 15 or 20 mm (0.4, 0.6 or 0.79 in) height

DESCRIPTIONS

SET INCLUDES

- 1 reconstruction positioning unit
- 1 slice thickness unit
- 1 uniformity unit

height setting rack
manual

MATERIALS

Acrylic resin, Bakelite, aluminum, copper, stainless

SPECIFICATIONS

Phantom size:
W7×D15×H25 cm / W2.7×D6×H9.8 in

Packing size:
W46×D31×H17 cm / W18.1×D12.2×H6.7 in

Packing weight:
2 kg / 4.4 lb

PH-59 | 41924-000

CT-DI Phantom (Head and Body Phantom)

Dosimetry



A set of phantoms for CTDI-100, conforming to requirements described in 21 CFR 1020.33, IEC 61223-3-5: 2004, and IEC 61223-2-6: 2006 as consistency test



A set with different type of tissue substitute can be custom-ordered

SHOW MORE!



FEATURES

- Represent adult head and body as well as pediatric body
- Can be used for initial and follow-up QA tests

EVALUATION PARAMETERS

- Computed Tomography Dose Index (CTDI)
- Dose profile

DESCRIPTIONS

SET INCLUDES

- 1 head phantom
- 1 body phantom
- 10 filling rods
- manual

SPECIFICATIONS

Phantom size:
Body phantom: 32 dia.×15 cm / 12.6 dia.×5.9 in
Head phantom: 16 dia.×15 cm / 6.3 dia.×5.9 in

Phantom weight:
15kg / 33lb, 4kg / 8.8lb

MATERIALS

Acrylic resin

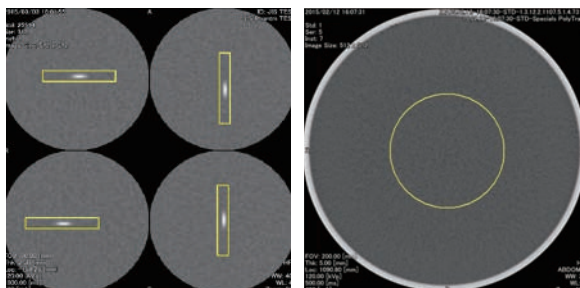
PH-54 | 41919-000

CT QA Phantom JCT II

CT



CT QA phantom for acceptance test as well as daily QC



SHOW MORE!

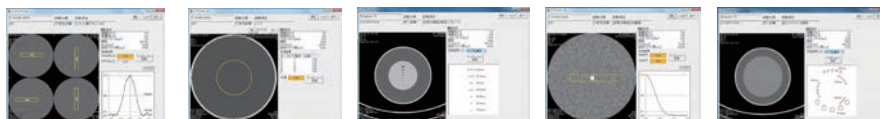


FEATURES

- The phantom can be used for initial and follow-up QA tests listed below, described in JIS Z 4752-3-5: 2008 (IEC 61223-3-5: 2004) and Z 4752-2-6: 2012 (IEC 61223-2-6: 2006)
- Conforming to JIS Z 4923:2015

EVALUATION PARAMETERS

- Axial scan:
Slice thickness / spatial resolution / low contrast resolution / noise / mean HU number / uniformity
- Helical scan:
Slice thickness



*System requirements of software (Japanese language) : OS Windows 7 (64 bit), Windows 8.1 Pro (64 bit), memory 4GB, HDD 250 GB

DESCRIPTIONS

SET INCLUDES

- 1 cylindrical container
- 1 slice thickness unit (axial)
- 1 spatial resolution unit
- 1 repeated pattern unit
- 1 low contrast resolution unit
- 2 slice thickness unit (helical)
- 1 fixture for the slice thickness unit
- 1 fixture for the cylindrical container
- 1 Vaseline
- 1 set of screws (spare)
- 1 angle adjustment holder (table top type)
- manual

SPECIFICATIONS

Phantom size:
20 dia.×20 cm / 7.9 dia.×7.9 in
Phantom weight:
3 kg / 6.6 lb

MATERIALS

Acrylic resin, polyurethane, stainless

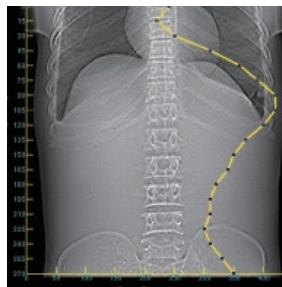
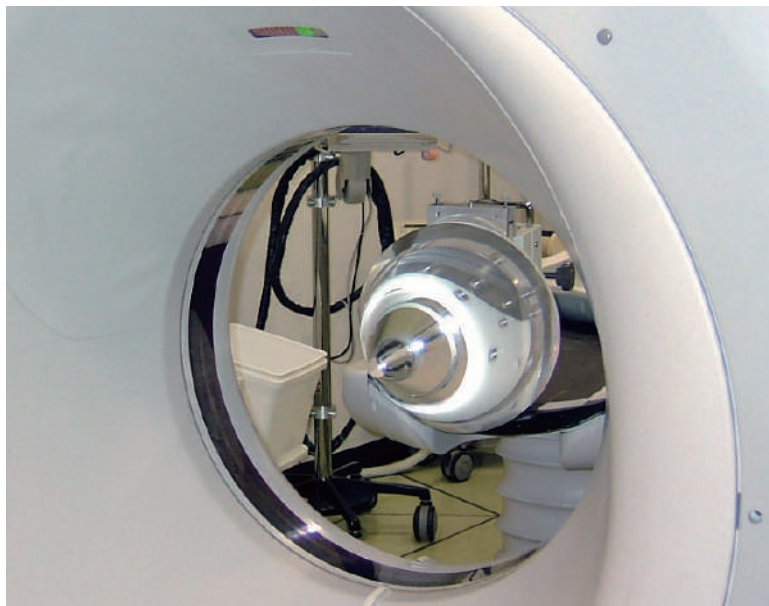
PH-7

41339-010-

CT-AEC Phantoms

CT

Four types of phantoms designed to evaluate CT-AEC performance



example of CT-AEC with an anthropomorphic phantom

SHOW MORE!

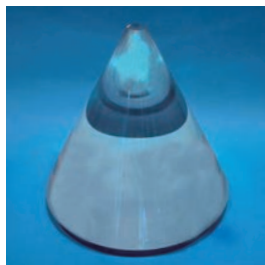


FEATURES

Image quality can be evaluated by noise and S.D. on the phantom | CT-AEC section images

APPLICATIONS

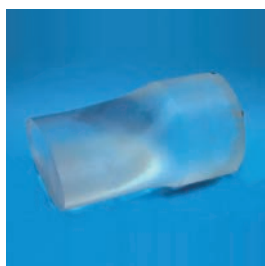
VARIATIONS



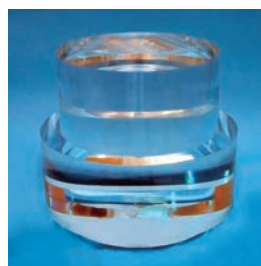
Cone Phantom:
evaluates performance of AEC for different patient sizes and gradual size changes in size along the axis



Elliptical Cone Phantom:
in combination with the Cone phantom facilitates evaluation of XY AEC



Variable-XY Phantom:
evaluates performance of XY AEC as cross section changes from circular to elliptical



Stepped Phantom:
evaluates the performance of the AEC to sudden changes in patient's cross section

DESCRIPTIONS

SET INCLUDES (per each)

1 phantom with an attachment bracket

MATERIALS

Acrylic resin

PRODUCT VARIATIONS

41339-010 Cone (Apollo Phantom)

41339-020 Elliptical Cone Phantom

41339-030 Stepped Cylinder Phantom

41339-040 Variable XY Phantom

*each phantom can be ordered individually

PUBLICATION REFERENCES

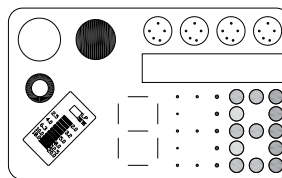
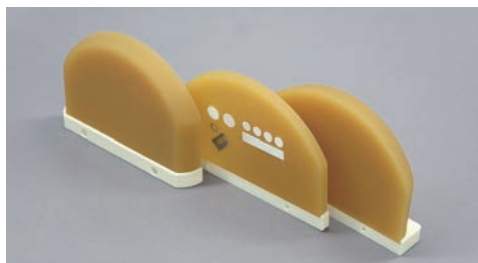
Muramatsu, Y., Ikeda, S., Osawa, K., Sekine, R., Niwa, N., Terada, M., . . . Miyazaki, S. (2007). Performance evaluation for CT-AEC(CT automatic exposure control)systems. Japanese Journal of Radiological Technology, 63(5), 534-545. doi:https://doi.org/10.6009/jjrt.63.534

PH-13 | 41329-010

Digital Mammographic Phantom NCCE



An integrated QA phantom for digital mammography systems



SHOW MORE!



FEATURES

- Outer shape of the phantom simulates a compressed breast of D shape
- Targets includes simulated microcalcifications, nylon fibrils, acrylic disks, an aluminum ring, Teflon disks, a Teflon ruler (slope) and a resolution test chart

EVALUATION PARAMETERS

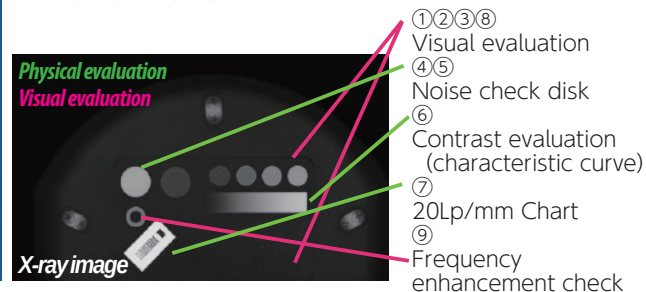
- Contrast resolution
- Frequency enhancement
- Noise and contrast transfer function

DESCRIPTIONS

SET INCLUDES

- | | |
|-----------|----------------|
| 1 phantom | 1 storage case |
|-----------|----------------|

TARGETS AND EVALUATION



PH-10 | 41322-000

BMD Chart Phantom UHA

X-ray



Bone Mineral Density chart for microdensitometry (MD) method



SHOW MORE!



FEATURES

- 21 steps with different hydroxyapatite content
- Steps range from 0 to 400 mg/cm², with 20mg/cm² difference each

APPLICATIONS

- microdensitometry

DESCRIPTIONS

- | | |
|--------------|-----------------|
| SET INCLUDES | 1 chart phantom |
| | 1 storage case |

PUBLICATION REFERENCES

Anderson AE, Peters CL, Tuttle BD, Weiss JA. Subject-specific finite element model of the pelvis: development, validation and sensitivity studies. J Biomech Eng. 2005 Jun;127(3):364-73. doi: 10.1115/1.1894148.

Andrew Edward Anderson, COMPUTATIONAL MODELING OF HIP JOINT MECHANICS, Theses, University of Utah

PH-17 | 41317-000

Water Body Phantom WAC

X-ray



Chest and abdomen phantom to help measure surface dose



SHOW MORE!



FEATURES

- | Water body phantom represents human chest and abdomen to serve as radiation absorber and scatterer.
- | The phantom is a double walled cylindrical container with track shaped cross section.
- For chest, fill water between two walls.
- For abdomen, fill the both spaces.

DESCRIPTIONS

SET INCLUDES

- 1 body phantom
- 1 storage case

SPECIFICATIONS

Phantom size:
W30×D20×H45 cm
W11.8×D7.9×H17.7 in

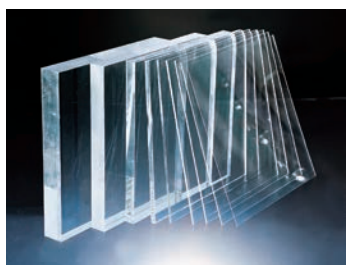
PH-14 | 41430-000-

Acrylic Phantom XAC

X-ray



Slab phantoms for radiation absorption and scattering measurement



SHOW MORE!



VARIATIONS

XAC-01	41430-000	30 × 30 × 0.1 cm/11.8 × 11.8 × 0.04 in
XAC-02	41431-000	30 × 30 × 0.2 cm/11.8 × 11.8 × 0.08 in
XAC-03	41432-000	30 × 30 × 0.3 cm/11.8 × 11.8 × 0.12 in
XAC-04	41433-000	30 × 30 × 0.4 cm/11.8 × 11.8 × 0.16 in
XAC-05	41434-000	30 × 30 × 0.5 cm/11.8 × 11.8 × 0.2 in
XAC-08	41435-000	30 × 30 × 0.8 cm/11.8 × 11.8 × 0.3 in
XAC-1	41436-000	30 × 30 × 1 cm/11.8 × 11.8 × 0.4 in
XAC-2	41437-000	30 × 30 × 2 cm/11.8 × 11.8 × 0.8 in
XAC-3	41438-000	30 × 30 × 3 cm/11.8 × 11.8 × 1.2 in
XAC-4	41439-000	30 × 30 × 4 cm/11.8 × 11.8 × 1.6 in
XAC-5	41440-000	30 × 30 × 5 cm/11.8 × 11.8 × 2.0 in
XAC-8	41441-000	30 × 30 × 8 cm/11.8 × 11.8 × 3.1 in
XAC-10	41442-000	30 × 30 × 10 cm/11.8 × 11.8 × 3.9 in

PH-16 | 41318-000,010 / 41319-000,010

Contrast Detail Phantom

X-ray



Concentration resolution evaluation from two directions in plain X-ray



SHOW MORE!



FEATURES

- | Four types of phantoms with different sizes and target types
- Hole 15: 41318-000 - Hole 10: 41318-010
- Rod 15: 41319-000 - Rod 10: 41319-010

DESCRIPTIONS

SIZE

- Hole 15: 15 × 15 holes of depth range from 1.0 to 8.0 mm (0.4 to 3.1 in)
- Rod 15: 15 × 15 rods of height range from 1.0 to 8.0 mm (0.4 to 3.1 in)
- Hole 10: 10 × 10 holes of depth range from 1.0 to 5.5 mm (0.4 to 2.2 in)
- Rod 10: 10 × 10 rods of height range from 1.0 to 5.5 mm (0.4 to 2.2 in)

SET INCLUDES

- 1 chart phantom
- storage case

PH-31/ 41330-000 | PH-32B/ 41330-030

MRI



MRI Quality Assurance Phantom MHR / JMR II

Available to high magnetic fields up to 3T, allows the evaluations of slice thickness, spatial resolution, uniformity, and geometric distortion as well as contrast

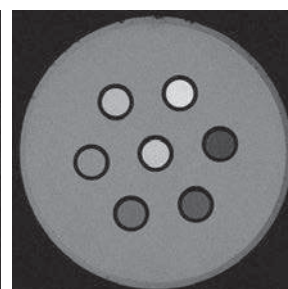
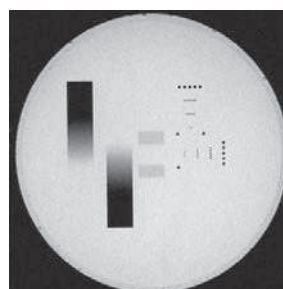
PH-31 MHR: compiled with NEMA standards



PH-32B JMR 2



SHOW MORE!



FEATURES

- | Uniformity is maintained under the high magnetic field of 3.0 Tesla | MRI
- | Uniformity provides high precision evaluation for other parameters

APPLICATIONS

EVALUATION PARAMETERS

PH-31 MHR

- | Signal-to-noise ratio (SNR)
- | Image uniformity
- | RF uniformity
- | Spatial resolution
- | Spatial linearity (image distortion)
- | Slice thickness
- | Slice position / separation
- | Image contrast
- | Image artifact

PH-32B JMR 2

- | Signal noise ratio (SNR)
- | Image uniformity
- | Slice thickness
- | Spatial resolution
- | Geometric distortion
- | Ghost
- | Image contrast

DESCRIPTIONS

PH-31 MHR

SET INCLUDES

1 phantom unit A	1 funnel
1 phantom unit B	1 petroleum jelly
1 liquid paraffin	1 screwdriver
1 spout	1 extra screws
5 NiCl 50ml (5, 10, 15, 20, 25 mmol)	1 storage case
7 sample bottle (13.5ml)	1 manual

MATERIALS

acrylic resin, MRI contrast solution: nickel dichloride (NiCl)

SPECIFICATIONS

Dimensions: 22 dia. × 14(H) cm × 2 types
8.7 dia. × 5.5 in

PH-32B JMR 2

SET INCLUDES

1 phantom unit A	1 funnel
1 phantom unit B	1 petroleum jelly
1 liquid paraffin	1 screwdriver
1 spout	1 extra screws
3 NiCl 50ml (5, 10, 15 mmol)	1 storage case
3 sample bottle (9ml)	1 manual

MATERIALS

Acrylic resin, MRI solution:

SPECIFICATIONS

Dimensions: 18 dia. × 16(H) cm
7.1 dia. × 6.3 in

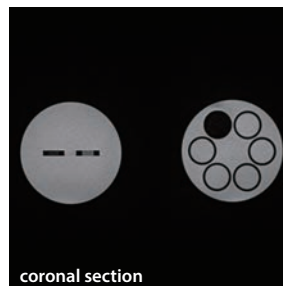
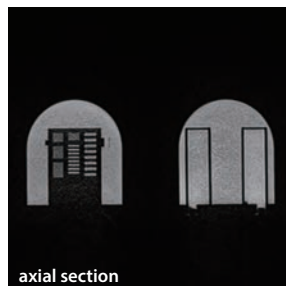
PH-72 | 41936-000

MRI Breast QA phantom

MRI



An innovative phantom in the shape of breasts for detailed QA in Breast MRI



SHOW MORE!



FEATURES

- Quantitative evaluation of Breast MRI with breast coils
- Adjustable height of the phantoms in the range of 10cm to fit the depth of the coils
- Horizontal position of the phantoms can be set arbitrarily on the 30cm length slit

APPLICATIONS

MRI

TEST SUMMARY

- Spatial resolution
- Quantitative evaluation of ADC on test pieces of tissue substitute

DESCRIPTIONS

SET INCLUDES

- 2 breast MRI evaluation unit (2 types, 1 each)
- 1 adjustment bolt
- 1 supporting plate
- 1 storage case

MATERIALS

Acrylic resin

SPECIFICATIONS

Phantom dimensions: 30×40×26 cm, 5kg
11.8×15.7×10.2 in, 11 lb

PH-33 | 41330-010

MRI Head Phantom NH



Life-size head phantom to assess uniformity



SHOW MORE!



APPLICATIONS

MRI | SPECT / CT
CT

DESCRIPTIONS

SET INCLUDES

- 1 head phantom
- 1 nickel chloride solution
- 1 spout
- 1 storage case
- 1 manual

MATERIALS

Acrylic resin

COMPLIES WITH

JIS Z 4924

SPECIFICATIONS

Phantom size:
W17×D22×H30 cm
W6.7×D8.6×H11.8 in

PH-34 | 41501-000

MRI/NM Head Phantom BHC



Simulate life-size head images in MRI and NM



SHOW MORE!



APPLICATIONS

MRI | SPECT / CT
CT

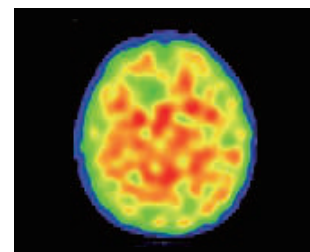
DESCRIPTIONS

SET INCLUDES

- 1 head phantom
- 2 simulated tumors
- 1 nickel chloride solution
- 1 storage case

SPECIFICATIONS

Phantom height:
33 cm / 12.9 in



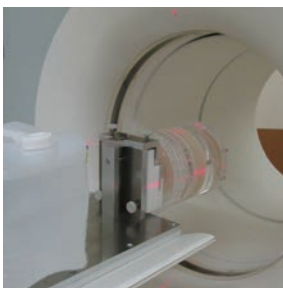
PH-28

41535-100

SPECT QA Phantom JSP



For daily quality control in SPECT and PET imaging

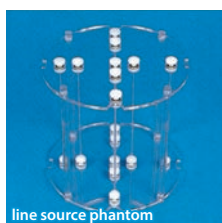


Optional parts: holder

SHOW MORE!



outer phantom



line source phantom



cold spot phantom



hot spot phantom



geometric distortion phantom



dose linearity phantom

FEATURES

A set of test units for daily QA of SPECT/PET

APPLICATIONS

SPECT and PET

EVALUATION PARAMETERS

Uniformity

Spatial resolution

Dose linearity

Image distortion

DESCRIPTIONS

SET INCLUDES

- 1 outer phantom
- 1 line source phantom
- 1 cold spot phantom
- 1 hot spot phantom
- 1 dose linearity phantom
- 1 geometric distortion phantom
- 1 angle adjustment holder (table-top type)

- 1 petroleum jelly
- 1 screwdriver
- 3 kinds of extra screw
- 1 Injection needle
- 1 storage case
- manual

MATERIALS

Phantom: methacrylic resin

COMPILES WITH

JIS Z 4922

SPECIFICATIONS

Phantom size:
22dia.×22 cm / 8.7dia.×8.2 in

41535-010

Optional Parts for PH-28 and 30

Holder and accessories

Specify the manufacturer and type of the scanner



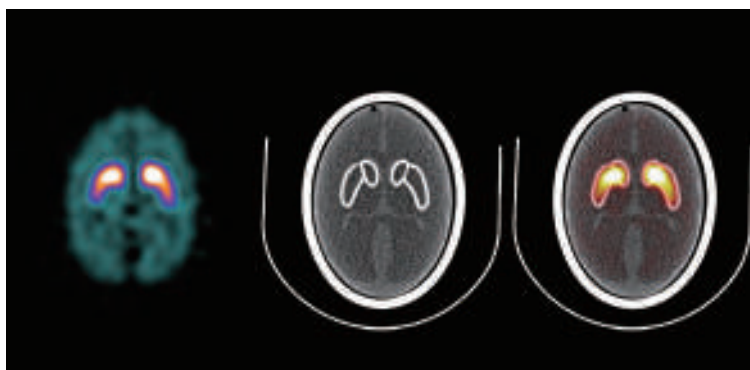
PH-53 | 41918-000

Brain Phantom IB-20 advanced

MRI

Nuclear
Medicine

For uptake ratio calibrations and studying the L-123DaTSCAN scatter correction techniques



FEATURES

This brain phantom of the striatal region with replicated skull densities of a male and female is useful for uptake ratio calibrations and studying the I-123 DaTSCAN scatter correction techniques

APPLICATIONS

SPECT, PET

DESCRIPTIONS

SET INCLUDES

2	bone scatterer cases	1	Velcro tape
	adult male: equivalent HU750	1	petroleum jelly
	elderly female: equivalent HU530	1	storage case
1	brain striatum phantom		manual
1	screwdriver		

SPECIFICATIONS

Phantom size:
W21×D15×H8 cm
W8.2×D5.9×H3.1 in

MATERIALS

Brain striatum: epoxy resin
Brain striatum container: urethane resin
Cerebral ventricle: urethane resin
Brain striatum phantom cover: acrylic
Bone scatterer case: epoxy resin

PH-27 | 41530-000

Brain Phantom IB-10

Dual- fluid system to vary the absorption rate, and 5 cm thickness for the vertical setting of the camera



SHOW MORE!



APPLICATIONS

SPECT, PET

EVALUATION PARAMETERS

Homogeneity evaluation	Detectivity of gray matter and white matter
Cross calibration	Spatial resolution of negative images
Gamma ray absorption rate by a skull	Radioactive concentration and linearity of SPECT value

DESCRIPTIONS

SET INCLUDES

1	brain unit
1	skull container unit
1	J-Jack unit
1	sectioned unit

MATERIALS

Acrylic resin/ urethane resin

SPECIFICATIONS

Phantom size:
W21×D15×H8 cm / W8.2×D5.9×H3.1 in

PH-69

41930-000

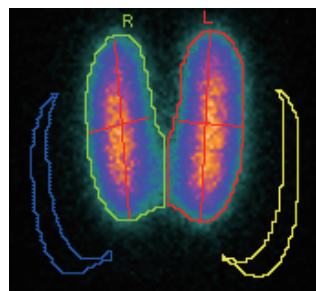
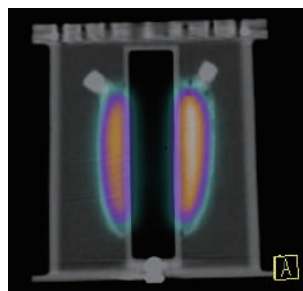
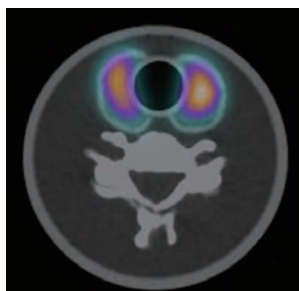
Thyroid Phantom UN



Five varying volumes of precision containers allow for various cases of measurement



SHOW MORE!



FEATURES

The set of the phantoms facilitate evaluation of the RI uptake of the thyroid and the assessment of its function.
The phantom also serves for dosimetry study in internal exposure.

- 5 kinds of thyroid grand (40,30,21,17,15 cc)
- Synthetic cervical vertebrae as a scatteration
- Infusing radiopharmaceuticals

APPLICATIONS

SPECT, PET

ANATOMY

Cervical spine C3 to C7

	Volume
Thyroid 1	14.7 ml
Thyroid 2	16.7 ml
Thyroid 3	20.7 ml
Thyroid 4	30.2 ml
Thyroid 5	39.0 ml

DESCRIPTIONS

SET INCLUDES

1 outer phantom	1 cervical spine
5 thyroid containers	1 trachea tube
1 thyroid (cold spot)	1 storage case
	1 manual

MATERIALS

Container: acrylic resin
Synthetic bone: epoxy resin
Thyroid: acrylic resin

SPECIFICATIONS

phantom size:	phantom weight:
13 dia.×H11.6 cm	0.85 kg
5.1 dia.×H4.6 in	1.87 lb

PH-26 | 41503-000

ORINS Thyroid Phantom ITS



A phantom by the ORINS standards



SHOW MORE!



FEATURES

- | Oak Ridge Institute for Nuclear Studies type phantom for measurement of thyroid radionuclide uptake
- | Cavities for iodine-131 are prepared in the neck phantom

APPLICATIONS

- | SPECT

DESCRIPTIONS

SET INCLUDES

- 1 petroleum jelly
- 1 screwdriver
- 1 storage case
- 1 manual

MATERIALS

Acrylic resin

SPECIFICATIONS

Phantom size:
12.5 dia. × 12.5 (H) cm / 4.9 dia. × 4.9 (H) in

PH-29 | 41540-030

ECT Hot Cold Phantom SP-6



Experience an innovative phantom with five crafted sphere containers, tailored for optimal dosimetry in PET/SPECT



SHOW MORE!



FEATURES

- | Five sphere containers with different sizes can be filled with RI solution
- | Volume of sphere phantoms are:
50 mm/2 in (100%), 80%, 60%, 40% and 20%

APPLICATIONS

- | SPECT, PET

DESCRIPTIONS

SET INCLUDES

- 1 phantom
- 1 storage case

SPECIFICATIONS

Phantom size:
21 dia. × 16 (H) cm / 8.2 dia. × 6.2 (H) in

MATERIALS

Acrylic resin

PUBLICATION REFERENCES

Fumiaki Uto, Eiji Shiba, Seiichi Onoue, Hitoshi Yoshimura, Mami Takada, Yoshihiko Tsuji, Satoshi Fukugami, Isao Asakawa, Tetsuro Tamamoto, Masatoshi Hasegawa, Phantom Study on Radiotherapy Planning Using PET/CT- Delineation of GTV by Evaluating SUV -, Journal of Radiation Research, Volume 51, Issue 2, March 2010, Pages 157-164, <https://doi.org/10.1269/jrr.09063>

PH-73

41937-000

Nuclear
Medicine

PET Body Phantom (NEMA-IEC)

Basic phantom for whole body PET image quality and quantification accuracy of source ACTIVITY concentrations and PET/CT registration accuracy



SHOW MORE!



FEATURES

- Complies with IEC 61675-1 and NEMA NU 2-2018
- Six sphere shaped fillable targets
- A column in the center of the phantom to simulated the lung

APPLICATIONS

- Evaluation of PET image
- Evaluation of radioisotope
- Accuracy of specific activity of radioisotopes

DESCRIPTIONS

SET INCLUDES

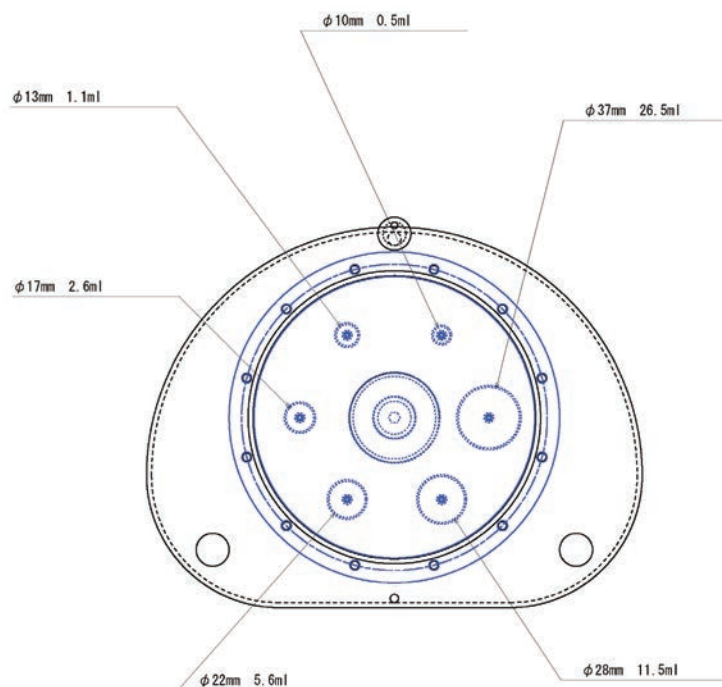
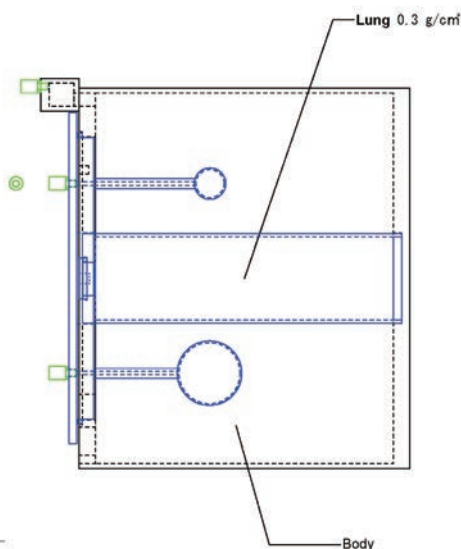
- 1 body phantom with lung column
- 1 funnel
- 1 syringe
- 1 petroleum jelly
- 1 set of screws
- 1 carrying case

SPECIFICATIONS

Dimensions : W30×D20×H23 cm
W11.8×D7.9×H9.1 cm
Weight : 2.6 Kg
5 lb

MATERIALS

Acrylic resin

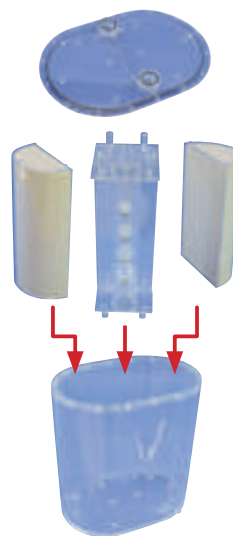


PH-74 | 41938-000

Bone Scintigraphy Quality Assurance Phantom

SPECT/CT

The world first standard QA phantom for Bone Scintigraphy, Bone SPECT/CT and NaF-PET



SHOW MORE!



FEATURES

- The phantom can represent either thoracic or lumbar region by changing the filling of side cavities

APPLICATIONS

- Bone scintigraphy
- Bone SPECT/CT
- NaF-PET

EVALUATION PARAMETERS

Visual Evaluation

- Tumor detectability
- Image distortion
- Artifact

Quantitative Evaluation

- Contrast and count ratio between vertebral body and tumor
- Concentration linearity and recovery coefficient in the tumor
- Statistical noise
- FWHM at the spinous process (relative index of resolution)

Other

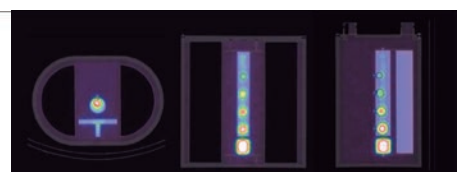
- Verification of scattering correction and attenuation correction



CT



SPECT



SPECT/CT

DESCRIPTIONS

SET INCLUDES

- | | |
|---------------|-------------------|
| 1 phantom | 1 petroleum jelly |
| 1 screwdriver | 1 needle |
| 1 funnel | 1 manual |

MATERIALS

- Acrylic resin
- Tough lung (PVA acetal compound)

SPECIFICATIONS

Phantom size:

OD: W310×D210×H355 mm ID: W290×D190×H300mm
W12.2×D8.2×H14 in W11.4×D7.5×H11.8 in

PH-24 | 41333-000

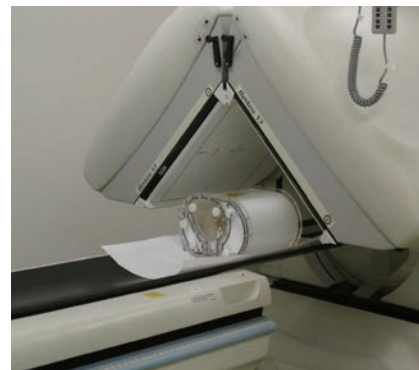
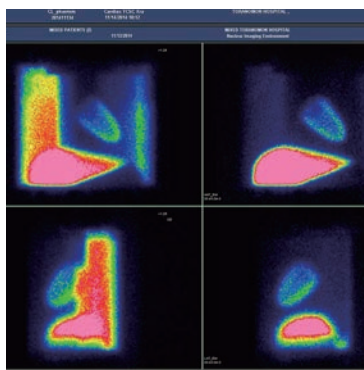
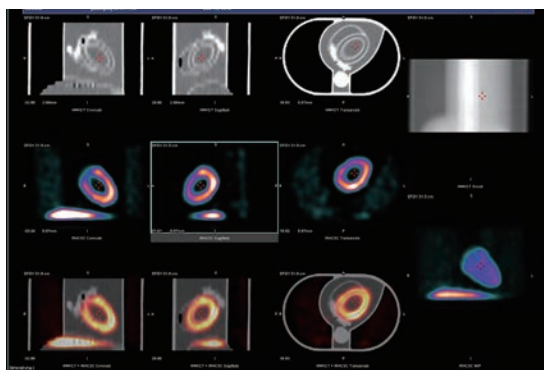
Myocardial Phantom HL



For researches of the impact of elevated radio accumulation in the liver on myocardial SPECT images for in-depth analysis



SHOW MORE!



FEATURES

- Allows the study of RI liver intake and its effect on the myocardial SPECT
- Cold defect can be set in the left cardiac muscle
- Background can be set individually in lung field, mediastinum and right ventricle

APPLICATIONS

- SPECT

DESCRIPTIONS

SET INCLUDES

1 main phantom body	1 stomach
1 right lung	1 heart
1 left lung	1 work base
1 mediastinum	1 screwdriver
1 liver	1 petroleum jelly
	1 storage case

MATERIALS

Main Container: Acrylic Resin
 Spine: Epoxy Resin (similar to human in HU)
 Heart: Acrylic Resin, Acrylic resin
 Lung: Foamed Resin, Water
 Screw: Polyacetal Resin

SPECIFICATIONS

Phantom size:
 W32×D22×H31 cm / W12.5×D8.6×H12.2 in
 Phantom weight:
 7.1 kg / 15.6 lb
 Packing size:
 W44×D39×H42 cm
 W17.3×D15.3×H16.5 in
 Packing weight:
 12.5 kg / 27.5 lb

PH-40/ 41/ 42

Tough Phantom Series

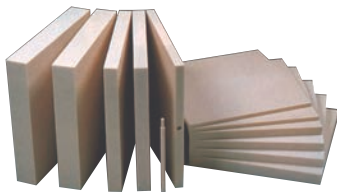
Dosimetry

An enduring, superior-quality phantom that remains stable and shatter-free,
designed to elevate precision in the realm of radiotherapy planning

PH-40

Tough Water Phantom WD

Human tissue substitute phantoms
with water equivalent physical properties



SHOW MORE!



VARIATIONS

WD-3002	300×300×2 mm/	12×12×0.08 in	WD-4003	400×400×3 mm/	16×16×0.12 in
WD-3003	300×300×3 mm/	12×12×0.12 in	WD-4005	400×400×5 mm/	16×16×0.2 in
WD-3005	300×300×5 mm/	12×12×0.2 in	WD-4010	400×400×10 mm/	16×16×0.4 in
WD-3010	300×300×10 mm/	12×12×0.4 in	WD-4015	400×400×15 mm/	16×16×0.6 in
WD-3015	300×300×15 mm/	12×12×0.6 in	WD-4020	400×400×20 mm/	16×16×0.8 in
WD-3020	300×300×20 mm/	12×12×0.8 in	WD-4025	400×400×25 mm/	16×16×1.0 in
WD-3025	300×300×25 mm/	12×12×1.0 in	WD-4030	400×400×30 mm/	16×16×1.2 in
WD-3030	300×300×30 mm/	12×12×1.2 in	WD-4040	400×400×40 mm/	16×16×1.6 in
WD-3040	300×300×40 mm/	12×12×1.6 in	WD-4050	400×400×50 mm/	16×16×2.0 in
WD-3050	300×300×50 mm/	12×12×2.0 in			
WD-4002	400×400×2 mm/	16×16×0.08 in			

MATERIAL
Epoxy resin

PH-41

Tough Bone Phantom BE-T, BE-H, BE-NWD

Human bone substitute phantoms to simulate
body structure in combination with PH-40 and PH-42



SHOW MORE!



VARIATIONS

BE-T-2005	Compact Bone 200×200×5mm/	8×8×0.2 in	BE-N-2020	Inner Bone 200×200×20 mm/	8×8×0.8 in
BE-T-2010	Compact Bone 200×200×10mm/	8×8×0.4 in	BE-H-3005	Cortical Bone 300×300×5 mm/	12×12×0.2 in
BE-T-2020	Compact Bone 200×200×20mm/	8×8×0.8 in	BE-H-3010	Cortical Bone 300×300×10mm/	12×12×0.4 in
BE-H-2005	Cortical Bone 200×200×5 mm/	8×8×0.2 in	BE-H-3020	Cortical Bone 300×300×20mm/	12×12×0.8 in
BE-H-2010	Cortical Bone 200×200×10mm/	8×8×0.4 in	BE-N-3005	Inner Bone 300×300×5 mm /	12×12×0.2 in
BE-H-2020	Cortical Bone 200×200×20mm /	8×8×0.8 in	BE-N-3010	Inner Bone 300×300×10mm/	12×12×0.4 in
BE-N-2005	Inner Bone 200×200×5 mm/	8×8×0.2 in	BE-N-3020	Inner Bone 300×300×20mm/	12×12×0.8 in
BE-N-2010	Inner Bone 200×200×10 mm/	8×8×0.4 in			

MATERIAL
Epoxy resin

PH-42

Tough Lung Phantom LP

Human lung substitute phantoms to simulate
body structure in combination with PH-40 and PH-41



SHOW MORE!



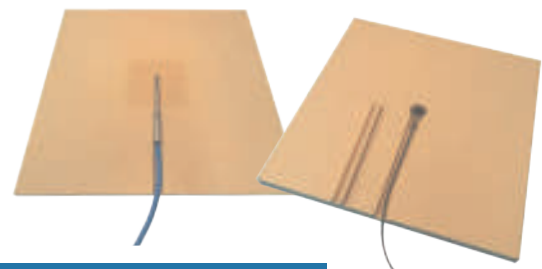
VARIATIONS

LP-3010	300×300×10 mm /	12×12×0.4 in
LP-3020	300×300×20 mm /	12×12×0.8 in
LP-3030	300×300×30 mm /	12×12×1.2 in
LP-3050	300×300×50 mm /	12×12×2.0 in

MATERIAL
Phenolic resin

Dosimetry cavities

Tough series phantoms can be ordered with cavities and plugs.
Specify your chamber's manufacturer and model number.
Let us have dimensional drawings of the chambers you are
using to estimate cost.



Specify the type of processing

1. Sandwich type (for pencil type)
2. Cylinder hole type (for pencil type)
3. Shallow type (for plain parallel type)

Specify your chamber's manufacturer
and model number

Phantoms for therapeutic energy range

Comparison of Physical Properties

ICRU publication 23 (Reference man)

	human soft tissue	muscle	fat	cartilage	lung
electron density ($\times 10^{23}$ e/g)	3.29	3.31	3.34	3.28	3.31
effective atomic number	7.03	7.45	6.33	7.89	7.49
specific gravity	1.00	1.05	0.95	1.10	0.26

	water	acryl	Tough Water Phantom WD	Tough Bone Phantom BE-T	Tough Bone Phantom BE-H	Tough Bone Phantom BE-N	Tough Lung Phantom LP
electron density ($\times 10^{23}$ e/g)	3.343	3.248	3.265	3.108	3.154	3.213	3.211
effective atomic number	7.417	6.467	7.328	13.179	11.697	9.141	7.242
specific gravity	1.000	1.180	1.018	1.730	1.500	1.240	0.370

	Tough Water Phantom WD	Tough Bone Phantom BE-T	Tough Bone Phantom BE-H	Tough Bone Phantom BE-N	Tough Lung Phantom LP
H	8.63	3.69	5.11	6.97	7.00
C	68.89	29.22	42.45	60.03	50.20
N	2.18	1.19	1.73	2.45	—
O	17.88	32.66	28.13	21.79	35.10
P	—	10.24	7.00	2.30	0.10
Cl	0.15	0.06	0.09	0.13	1.00
Ca	2.27	22.92	15.49	6.33	—
Al	—	—	—	—	1.50
Si	—	—	—	—	5.00

PH-37 | 41480-000

Therapy Body Phantom THRA-1

Dosimetry


THRA-1 is an anthropomorphic, cross sectional dosimetry phantom for therapeutic energy range


SHOW MORE!



FEATURES

- | This phantom is a therapy planning phantom made of Tough Phantom Series human tissue substitutes
- | Sizes and spacing of dosimeter cavities and slice thickness may be custom ordered

DESCRIPTIONS

SET INCLUDES

- 1 phantom
- 1 supporting frame
- insert rods for dosimeter holes

- 1 storage case
- manual

MATERIALS

- Body: Tough Water WE-211 (epoxy resin)
- Bone: Tough Bone BE-303
- Lung: Tough Lung LP-430

SPECIFICATIONS

Phantom height: 80 cm / 31.6 in
 Phantom weight: 33 kg / 72.7 lb
 Slice thickness: 3 cm / 1.2 in
 Dosimeter holes:
 in lattice-like pattern of 3×3 cm / 1.2×1.2 in

PUBLICATION REFERENCES

Yamauchi-Kawara C, Fujii K, Aoyama T, Yamauchi M, Koyama S. Radiation dose evaluation in multidetector-row CT imaging for acute stroke with an anthropomorphic phantom. Br J Radiol. 2010 Dec;83(996):1029-41. doi: 10.1259/bjr/52267127.

Fujii K, Aoyama T, Yamauchi-Kawara C, Koyama S, Yamauchi M, Ko S, Akahane K, Nishizawa K. Radiation dose evaluation in 64-slice CT examinations with adult and paediatric anthropomorphic phantoms. Br J Radiol. 2009 Dec;82(984):1010-8. doi: 10.1259/bjr/13320880.

PH-38 | 41480-010

Pediatric Therapy Body Phantom THRA-2

Dosimetry



SHOW MORE!



FEATURES

- | Unlike conventional radiotherapy phantoms, synthetic bones with unified size are used so that there are no differences of size by using human bones
- | Easy to compare data between facilities
- | Tumor targets can be attached as options

DESCRIPTIONS

SET INCLUDES

- 1 phantom
- 1 supporting frame
- insert rods for dosimeter holes

- 1 storage case
- manual

MATERIALS

- Body: Tough Water WE-211 (epoxy resin)
- Bone: Tough Bone BE-303
- Lung: Tough Lung LP-430

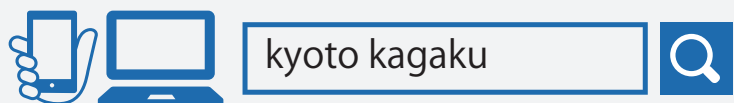
SPECIFICATIONS

Phantom height:
 60 cm / 23.6 in

CORPORATE WEBSITE

Announcing our new mobile-friendly website,
containing downloadable product descriptions on over 100 items.

Browse through our lineup of Kyoto Kagaku simulators and phantoms.
All are made in Kyoto.



<http://www.kyotokagaku.com/en/products>



Follow us on our Facebook
<https://www.facebook.com/KyotoKagaku>



Follow us on our YouTube Channel
<https://www.youtube.com/user/KyotoKagaku>



Kyoto Kagaku NEWS

Discover latest on simulation in healthcare, hands-on skills training, medical imaging phantoms!



↓↓ Send us an e-mail to ↓↓
✉ rw-kyoto@kyotokagaku.co.jp
to subscribe.



KYOTO KAGAKU co.,LTD



<https://www.kyotokagaku.com/en>



rw-kyoto@kyotokagaku.co.jp

Worldwide Inquires and Ordering Head Office and Factories

15 Kitanechoya-cho, Fushimi-ku, Kyoto, 612-8388, Japan

☎ +81-75-605-2510

🖨 +81-75-605-2519

Europe, Russia & Africa



KYOTO KAGAKU EUROPE GmbH



<https://www.kyotokagaku.com/en>



rw-kyoto@kyotokagaku.co.jp

De-Saint-Exupery-Str.10, 60549 Frankfurt, Germany

☎ +49-69-5060-28160

🖨 +49-69-5060-28170



All American regions

KYOTO KAGAKU AMERICA INC.



<https://www.kyotokagaku.com/en>



info@kkamerica-inc.com

3109 Lomita Boulevard, Torrance, CA 90505-5108, USA

☎ +1-310-325-8860

🖨 +1-310-325-8867

May 2024 G500