## Kyoto Kagaku Anthropomorphic Phantoms

<table>
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<td>PH-58</td>
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<td>PH-47/62</td>
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<td>PH-1C</td>
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<td>PH-4</td>
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<td>PH-47/62</td>
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<td>PH-46</td>
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<td>PH-71</td>
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<td>P.26</td>
</tr>
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<td>PH-49</td>
<td>P.26</td>
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## Kyoto Kagaku Chest Phantom Family

<table>
<thead>
<tr>
<th>Model</th>
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<tbody>
<tr>
<td>PH-1</td>
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<td>PH-63</td>
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<td>PH-47/62</td>
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<td>PH-49</td>
<td>P.26</td>
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<tr>
<td>PH-49</td>
<td>P.26</td>
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</tbody>
</table>

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**Note:** This catalog features a range of phantoms used in radiology, including newborn whole body phantoms, pediatric whole body phantoms, CT whole body phantoms with pathologies, body plates, sectional phantom series, fracture hand/forearm phantom, and various other anthropomorphic and chest phantoms for diagnostic radiology.
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<th>P.28</th>
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<td><strong>Tomosynthesis Phantom NS</strong></td>
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<td><strong>Thorax Low Contrast Phantom ODA-LC</strong></td>
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<tr>
<td><strong>CT-DI Phantom (Head and Body Phantom)</strong></td>
<td>PH-59</td>
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<tr>
<td><strong>CT QA Phantom JCT II</strong></td>
<td>PH-54</td>
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<tr>
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<td><strong>Dynamic Cardiac CT Phantom MD-CT</strong></td>
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<tr>
<td><strong>Digital Mammographic Phantom NCCE (fall)</strong></td>
<td>PH-13</td>
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<td><strong>BMD Chart Phantom UHA</strong></td>
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<td><strong>Water Body Phantom WAC</strong></td>
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<td><strong>Acrylic Phantom XAC</strong></td>
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<td><strong>Contrast Detail Phantom</strong></td>
<td>PH-37</td>
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<td><strong>Dynamic Thorax Phantom</strong></td>
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<td><strong>Dynamic Heart and Lung Phantom</strong></td>
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<td><strong>MRI Breast QA phantom</strong></td>
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<td><strong>MRI Head Phantom NH</strong></td>
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<td><strong>PET/SPECT Brain Phantom</strong></td>
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<td><strong>Brain Phantom IB-20 advanced</strong></td>
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<td><strong>Brain Phantom IB-10</strong></td>
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<tr>
<td><strong>PET/SPECT Thyroid Phantom AT</strong></td>
<td>PH-65</td>
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<tr>
<td><strong>Thyroid Phantom UN</strong></td>
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<tr>
<td><strong>ORINS Thyroid Phantom ITS</strong></td>
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<td><strong>Myocardial Phantom HL</strong></td>
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<td><strong>ECT Hot Cold Phantom SP-6</strong></td>
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<tr>
<td><strong>SPECT QA Phantom JSP</strong></td>
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</table>
Kyoto Kagaku Anthropomorphic Phantoms

Our Anthropomorphic phantoms provide life like images and attenuation. Ideal for educational training applications and help to determine and evaluate optimal scanning parameters.

We provide a variety of anthropomorphic phantoms to meet your requirements that suits you best.

<table>
<thead>
<tr>
<th></th>
<th>NEWBORN</th>
<th>CHILD (5-year-old)</th>
<th>ADULT</th>
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<tr>
<td>Plain X-ray</td>
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<td>PH-50: P5</td>
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<td>CT</td>
<td>PH-50: P5</td>
<td>PH-2C: P6</td>
<td>PH-2: P10</td>
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<tr>
<td>Dosimetry</td>
<td>PH-50: P5</td>
<td>PH-2D: P7</td>
<td>PH-2E: P9</td>
</tr>
</tbody>
</table>

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

All above phantoms can be imaged via both plain radiography (X-ray) and CT. Differences in included organs or tissue substitute material provide some phantoms wider use in CT study/training than others.

Body size variations

Body plates

PH-61 41926-000- Sectional Phantom Series P.13

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

Bone fracture

PH-50: P5

Meconium aspiration syndrome* "Option"

PH-2C: P6

PHBU-70

PH-2D: P7

Bone fracture

PH-2E: P9

with pathologies

*Option
PH-50B | 41912-100
Newborn Whole Body Phantom "PBU-80"

A brand-new neonate for CT has come into the world

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 |
| A hole for an ion chamber |
| HU of average newborn |

APPLICATIONS

| CT and plain X-ray |
| Dosimetry |
| Autopsy imaging |
| Positioning: 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
2. set of sample X-ray data (DVD)
3. storage case

SPECIFICATIONS

| Phantom size: 53 cm / 20.8 in |
| Phantom weight: 3.5 kg / 7.7 lb |
| Packing size: W57 x D44 x H29 cm |
| Packing weight: 8 kg / 17.6 lb |

MATERIALS

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

PH-50 | 41912-000
Newborn Whole Body Phantom

APPLICATIONS

| CT and plain X-ray |
| Dosimetry |
| Autopsy imaging |

ANATOMY

As per PBU-80
*Meconium aspiration syndrome can be made per custom order

DESCRIPTIONS

SET INCLUDES

As per PBU-80

SPECIFICATIONS

| Phantom height: 42 cm / 16.5 in |
| Phantom weight: 2.8 kg / 6.2 lb |
| Packing size: W57 x D44 x H29 cm |
| Packing weight: 8 kg / 17.6 lb |

MATERIALS

As per PBU-80
Pediatric Whole Body Phantom "PBU-70"

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

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

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

HU numbers of each organ:
- liver 70
- kidney 30

DESCRIPTIONS

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

SPECIFICATIONS
- Phantom height: 110 cm / 43.3 in
- Phantom weight: 20 kg / 44 lb
- Packing size: W86 x D60 x H32 cm / 33.8 x 23.6 x 12.6 in

MATERIALS
- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)
- Phantom has no metal parts or liquid structure

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

PUBLICATION REFERENCES
doi:10.1117/12.2001694
Bone Fracture Pediatric Phantom "PBU-70B"

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>APPLICATIONS</th>
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<tbody>
<tr>
<td>Training in pediatric radiography can be enriched with clear and subtle bone fractures</td>
<td>Plain X-ray</td>
</tr>
<tr>
<td>Typical fractures resulting from child abuse are also included</td>
<td>CT</td>
</tr>
<tr>
<td>Radiology absorption and HU number approximate to human body</td>
<td>Basic patient positioning</td>
</tr>
<tr>
<td>Main joints have close-to human articulation</td>
<td>Radiographic interpretation</td>
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<tr>
<td>Phantom can be disassembled into 10 individual parts</td>
<td></td>
</tr>
</tbody>
</table>

CONCEPT and ANATOMY

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 maltreatment. At times, fractures display better on x-ray scans than CT imaging.

DESCRIPTIONS

SET INCLUDES

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

SPECIFICATIONS

Phantom height: 110 cm
43.3 in

Phantom weight: 20 kg / 44 lb

Phantom height: 110 cm
43.3 in

W86 x D60 x H32 cm

W33.8 x D23.6 x H12.6 in

MATERIALS

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

OPTIONAL PARTS

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

Improve skills in detecting bone fractures in children and cultivate awareness of child maltreatment.
**CT Whole Body Phantom "PBU-60"**

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.

---

### 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

### Anatomy

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

### Specifications
- **Phantom height:** 165 cm, 65 in
- **Phantom weight:** 50 kg / 110 lb, 80 kg / 176 lb
- **Packing size:** 85 x 60 x 44 cm x 2 boxes, 33.5 x 24 x 17.3 in x 2 boxes
- **Packing weight:** 80 kg / 176 lb

### Set Includes
- 1 whole body phantom
- 1 head supporter
- 1 flat head screwdriver

### 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)

### Materials
- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)
- Skull: epoxy resin (specific gravity: 1.11)
- Phantom has no metal parts or liquid structure

### Applications
- CT
- Plain X-ray
- Basic patient positioning

---

**CT X-ray**

**ANTHROPOMORPHIC PHANTOMS**

**DESCRIPTIONS**

**PUBLICATION REFERENCES**


**FEATURES**

**APPLICATIONS**

**ANATOMY**

**SET INCLUDES**

1. whole body phantom
2. head supporter
3. flat head screwdriver

**SPECIFICATIONS**

1. Phantom height:
   - 165 cm
   - 65 in
2. Phantom weight:
   - 50 kg / 110 lb
   - 80 kg / 176 lb
3. Packing size:
   - 85 x 60 x 44 cm x 2 boxes
   - 33.5 x 24 x 17.3 in x 2 boxes
4. Packing weight:
   - 80 kg / 176 lb

---

**MATERIALS**

**OPTIONAL PARTS**

1. 41363-070 storage cases (consist of 2 boxes)
2. 41350-200-16 body plates for PH-2/2B (BMI 32)
3. 41350-200-17 body plates for PH-2/2B (BMI 40)
PH-2E | 41350-700
CT Whole Body Phantom with Pathologies

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

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

ANATOMY and PATHOLOGY

<table>
<thead>
<tr>
<th>Cases</th>
<th>HU number at 80KeV</th>
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<tbody>
<tr>
<td>Brain tumor</td>
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<tr>
<td>Subarachnoid hemorhage</td>
<td>90</td>
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<tr>
<td>Pulmonary tumor</td>
<td>inside: 30 / outside: 130</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Internal organs</th>
<th>HU number at 80KeV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain</td>
<td></td>
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<tr>
<td>Cerebrum</td>
<td>40</td>
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<tr>
<td>Mesencephalon</td>
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<td>Cerebellum</td>
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<td>Lungs</td>
<td>-1000</td>
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<tr>
<td>Pulmonary vessels</td>
<td>8</td>
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<td>Trachea</td>
<td>8</td>
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<tr>
<td>Trachea wall: B / inside: -1000</td>
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<tr>
<td>Heart</td>
<td>PBU-50: 8 / PBU-60: 40</td>
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<tr>
<td>Liver</td>
<td>70</td>
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<thead>
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<th>Cases</th>
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<td>Kidney stone</td>
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<td>Appendicitis</td>
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<td>Portal and hepatic veins</td>
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<td>Pancreas</td>
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<td>Kidneys</td>
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<tr>
<td>Gallbladder</td>
<td>20</td>
</tr>
<tr>
<td>Spleen</td>
<td>50</td>
</tr>
<tr>
<td>Seminal vesicle</td>
<td>25</td>
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<tr>
<td>Aloha</td>
<td>40</td>
</tr>
<tr>
<td>Cava</td>
<td>70</td>
</tr>
<tr>
<td>Ureter</td>
<td>ureter wall: 30 / inside: 10</td>
</tr>
<tr>
<td>Ureter bladder</td>
<td>10</td>
</tr>
<tr>
<td>Prostate</td>
<td>50</td>
</tr>
<tr>
<td>Rectum</td>
<td>rectum wall: 70 / inside: -800</td>
</tr>
<tr>
<td>Sigmoid Colon</td>
<td>colon wall: 70 / inside: -800</td>
</tr>
</tbody>
</table>

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

DESCRIPTIONS

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 whole body phantom</td>
</tr>
<tr>
<td>1 head supporter</td>
</tr>
<tr>
<td>1 flat head screwdriver</td>
</tr>
<tr>
<td>1 set of sample X-ray data (DVD)</td>
</tr>
<tr>
<td>manual</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phantom height: 165 cm 165 cm</td>
</tr>
<tr>
<td>Packing size: 85 x 60 x 44 cm x 2 boxes</td>
</tr>
<tr>
<td>65 in 33.5 x 24 x 17.3 in x 2 boxes</td>
</tr>
<tr>
<td>Phantom weight: 50 kg / 110 lb 80 kg / 176 lb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft tissue: urethane based resin (specific gravity: 1.06)</td>
</tr>
<tr>
<td>Synthetic bone: epoxy resin (specific gravity: 1.31)</td>
</tr>
<tr>
<td>Skull: epoxy resin (specific gravity: 1.11)</td>
</tr>
<tr>
<td>*Phantom has no metal parts or liquid structure</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPTIONAL PARTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>41363-070</td>
</tr>
<tr>
<td>storage cases (consist of 2 boxes)</td>
</tr>
<tr>
<td>41350-200-16</td>
</tr>
<tr>
<td>body plates for PH-2/2B (BMI 32)</td>
</tr>
<tr>
<td>41350-200-17</td>
</tr>
<tr>
<td>body plates for PH-2/2B (BMI 40)</td>
</tr>
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</table>
### Whole Body Phantom "PBU-50"

**An essential asset for every radiography program**

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology absorption and HU approximate to human body</td>
<td>Plain X-ray</td>
</tr>
<tr>
<td>Main joints have close-to human articulation</td>
<td>Basic patient positioning</td>
</tr>
<tr>
<td>Phantom can be disassembled into 10 individual parts</td>
<td>Basic CT</td>
</tr>
</tbody>
</table>

## 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

## MATERIALS

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

## SPECIFICATIONS

- **Phantom height:** 165 cm / 65 in
- **Phantom weight:** 50 kg / 110 lb
- **Packing size:** 85 x 60 x 44 cm x 2 boxes
- **Packing weight:** 80 kg / 176 lb

## SET INCLUDES

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

## 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)
**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

**DESCRIPTIONS**

- **SET INCLUDES**
  - 1 whole body phantom
  - 1 head supporter
  - 1 flat head screwdriver
  - 1 set of sample X-ray data (DVD)
  - manual

- **SPECIFICATIONS**
  - Phantom height: 165 cm / 65 in
  - Packing size: 85 x 60 x 44 cm x 2 boxes / 33.5 x 24 x 17.3 in x 2 boxes
  - Phantom weight: 50 kg / 110 lb
  - Packing weight: 80 kg / 176 lb

- **MATERIALS**
  - Soft tissue: urethane based resin (specific gravity: 1.06)
  - Synthetic bone: epoxy resin (specific gravity: 1.31)
  - Skull: epoxy resin (specific gravity: 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)

**PHOTO**

Tough Whole Body Phantom "PBU-90 RUGGED"

New phantom material is designed for rough handling, improved durability and less maintenance.
**ANTHROPOMORPHIC PHANTOMS**

---

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

**Body plates**

**DESCRIPTIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 body plate (front)</td>
</tr>
<tr>
<td>1 body plate (back)</td>
</tr>
<tr>
<td>2 belts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane based resin (specific gravity: 1.06)</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

- **Phantom size:**
  - W41 x D45 x H28 cm
  - W16.1 x D17.7 x H11 in

- **Packing size:**
  - 77 x 48 x 40 cm x 2 boxes
  - 30.3 x 18.9 x 15.7 in x 2 boxes

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

**FEATURES**

- For study of effect of patient size on radiation dose and image quality.

---

**41350-000-11**

**Fractured Hand/Forearm Phantom PH-2/2B**

**DESCRIPTIONS**

**SET INCLUDES**

- 1 fractured hand/forearm phantom

**MATERIALS**

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

**SPECIFICATIONS**

- **Bone Fractures:**
  - Ulna, radius, first metacarpal, middle phalanx of the index finger, distal phalanx of the first finger (compressed fracture), fifth metacarpal

---

**41363-070**

**Storage case 2 (a pair)**

**Optional Parts for PH-2/2B/2E/60**
PH-61  41926-000-

Sectional Phantom Series

Sectional phantoms allow for imaging of individual anatomy as needed

**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 |

**ITEMS**

<table>
<thead>
<tr>
<th>REGION</th>
<th>NO.</th>
<th>PRODUCT NAME</th>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41926-000</td>
<td>Head (Opaque)</td>
<td>Opaque: advanced version with close-to-reality challenges in imaging</td>
</tr>
<tr>
<td></td>
<td>41926-010</td>
<td>Head (Transparent)</td>
<td>Transparent: visible bones facilitate understanding in keys for positioning</td>
</tr>
</tbody>
</table>
|        | 41926-060 | Thorax (Opaque) | Includes thoracic skeletal system with embedded mediastinal space and bronchus to provide realistic imaging.
|        | 41926-070 | Thorax (Transparent) | Includes thoracic skeletal system with embedded mediastinal space and bronchus to provide realistic imaging. The scapulae are rotated outside of the lung fields for proper PA chest imaging |
|        | 41926-080 | Pelvic (Opaque) | Includes lumbar/sacral spine, pelvic bony anatomy and proximal femurs |
|        | 41926-140 | Right Elbow (Opaque) | Natural flexion range allows for AP/lateral and partial flexion views with one phantom |
|        | 41926-150 | Right Elbow (Transparent) | Natural flexion range allows for AP/lateral and partial flexion views with one phantom |
|        | 41926-020 | Right Hand (Opaque) | 
|        | 41926-030 | Right Hand (Transparent) | Movable patella and joint with flexion allows for realistic positioning of the knee for AP, lateral, oblique, sunrise and tunnel views |
|        | 41926-040 | Left Hand (Opaque) | 
|        | 41926-050 | Left Hand (Transparent) | 
|        | 41926-180 | Right Knee (Opaque) | 
|        | 41926-190 | Right Knee (Transparent) | 
|        | 41926-100 | Right Foot (Opaque) | Movable patella and joint with flexion allows for realistic positioning of the knee for AP, lateral, oblique, sunrise and tunnel views |
|        | 41926-110 | Right Foot (Transparent) | 
|        | 41926-120 | Left Foot (Opaque) | 
|        | 41926-130 | Left Foot (Transparent) | 

**DESCRIPTIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
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<tbody>
<tr>
<td>1 phantom</td>
</tr>
<tr>
<td>1 set of sample X-ray data (DVD)</td>
</tr>
<tr>
<td>1 manual</td>
</tr>
</tbody>
</table>

*Accessory of head phantom: adjustable head supporter

**MATERIALS**

<table>
<thead>
<tr>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft tissue: urethane based resin</td>
</tr>
<tr>
<td>Synthetic bone: epoxy resin (specific gravity: 1.31)</td>
</tr>
<tr>
<td>Skull: epoxy resin (specific gravity: 1.2)</td>
</tr>
</tbody>
</table>

*Phantom has no metal parts or liquid structure
Kyoto Kagaku Chest Phantom Family

Thorax contains organs crucial for our lives, and lung cancer remains to be the top cancer. Here’s a family of chest phantoms that support pursuit for better diagnosis and treatment.

- **Pursuit of low-dose**
  - PH-8 Lung Cancer Screening CT Phantom LSCT001
  - PH-58 Subsolid Nodules

- **Body size variation**
  - PH-1C Pediatric Chest Phantom
  - Chest plates for "LUNGMAN"

- **Extensive possibilities for study and training**
  - Attach the simulated tumors & improve interpretation skills
  - PH-1 Multipurpose Chest Phantom N1 "LUNGMAN"

- **Modality variation**
  - PH-39 Dynamic Thorax Phantom
  - Components for Radioisotope for "LUNGMAN"
  - PH-65 PET/SPECT Thorax Phantom

Radiotherapy
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.

**Features**
- Radiation absorption and HU number approximate to human body
- Simulated tumors and other targets can be attached at any points 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

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

**Set includes**
- 1 chest torso
- 15 simulated tumors (15 variations 1 piece each)
- 1 set of sample X-ray data (DVD)
- Manual

**Specifications**
- Phantom size:
  - 43 x 20 x 48 cm, chest girth 94 cm
  - 17 x 8 x 18 in, chest girth 37 in
- Phantom weight:
  - 18 kg / 39.6 lb

**Packing size**
- 65 x 55 x 29 cm
- 26 x 22 x 11 in

**Packing weight**
- 25 kg / 55.1 lb

**Materials**
- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 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**
Optional Parts for PH-1

**PH-58 Subsolid Nodules Phantom**

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

<table>
<thead>
<tr>
<th>Item No.</th>
<th>GGO field</th>
<th>Solid field</th>
<th>Diameter</th>
<th>HU</th>
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<tbody>
<tr>
<td>1</td>
<td>1.5 cm</td>
<td>-650</td>
<td>0.5 cm/0.20 in</td>
<td>-50</td>
</tr>
<tr>
<td>2</td>
<td>1.5 cm</td>
<td></td>
<td>0.5 cm/0.20 in</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>2.0 cm</td>
<td></td>
<td>0.3 cm/0.12 in</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>2.0 cm</td>
<td></td>
<td>0.5 cm/0.20 in</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0.79 in</td>
<td></td>
<td>0.7 cm/0.28 in</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0.79 in</td>
<td></td>
<td>0.9 cm/0.35 in</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>0.79 in</td>
<td></td>
<td>0.9 cm/0.35 in</td>
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</table>

41923-100 No.8-10 Eccentric

<table>
<thead>
<tr>
<th>Item No.</th>
<th>GGO field</th>
<th>Solid field</th>
<th>Diameter</th>
<th>HU</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1.5 cm</td>
<td>-650</td>
<td>0.5 cm/0.20 in</td>
<td>-50</td>
</tr>
<tr>
<td>9</td>
<td>0.59 in</td>
<td></td>
<td>0.3 cm/0.12 in</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0.59 in</td>
<td></td>
<td>0.5 cm/0.20 in</td>
<td>0</td>
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</tbody>
</table>

41923-200 No.11-12 Eccentric

<table>
<thead>
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<th>Item No.</th>
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<th>Solid field</th>
<th>Diameter</th>
<th>HU</th>
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<tbody>
<tr>
<td>11</td>
<td>2.0 cm</td>
<td>650</td>
<td>0.3 cm/0.12 in</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>0.79 in</td>
<td></td>
<td>0.5 cm/0.20 in</td>
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</table>

3D GGO

<table>
<thead>
<tr>
<th>Item No.</th>
<th>GGO field</th>
<th>Solid field</th>
<th>Diameter</th>
<th>HU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D-GGO</td>
<td>1.5 x 1.5 cm</td>
<td>0.59 x 0.59 in</td>
<td>0.90</td>
<td>-</td>
</tr>
</tbody>
</table>

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

**DESCRIPTS**

**MATERIALS**

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

**PHYSICAL PROPERTIES**

- **Dimensions:** Width 20 cm, Height 17 cm, Depth 5 cm
- **Weight:** Approximately 4.5 kg

**APPLICATIONS**

- **Study and training in GGO detection and interpretation**
- **Research applications including PET/CT fusion evaluation**

**DESCRIPTIONS**

**PHYSICAL PROPERTIES**

- **Dimensions:** Width 20 cm, Height 17 cm, Depth 5 cm
- **Weight:** Approximately 4.5 kg

**APPLICATIONS**

- **Study and training in GGO detection and interpretation**
- **Research applications including PET/CT fusion evaluation**

**MATERIALS**

- **Container:** acrylic resin
- **Lung and pulmonary nodule:** urethane based resin
- **Liver:** acrylic resin
- **Heart:** urethane based resin
Pediatric Chest Phantom

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

**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

**SPECIFICATIONS**
- Phantom size: 32 x 17 x 38 cm
  12.6 x 6.7 x 15 in
- Phantom weight: 6 kg / 13.3 lb
- Packing size: W51 x D43 x H45 cm
  W20 x D17 x 17.7 in
- Packing weight: 14 kg / 30 lb

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

**OPTIONAL PARTS**
- 41337-010 Chest plates
- 41363-020 Storage case
- 41337-070 Simulated tumors

**DESCRIPTIIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 five-year-old chest torso</td>
<td>Soft tissue: urethane based resin (specific gravity: 1.06)</td>
</tr>
<tr>
<td>1 lung vascular insert: mediastinum with pulmonary vessels</td>
<td>Synthetic bone: epoxy resin (specific gravity: 1.31)</td>
</tr>
<tr>
<td>1 lung density insert: mediastinum, lung fields (L・R)</td>
<td>*Phantom has no metal parts or liquid structure</td>
</tr>
<tr>
<td>1 set of sample images</td>
<td></td>
</tr>
<tr>
<td>1 storage case</td>
<td></td>
</tr>
<tr>
<td>1 manual</td>
<td></td>
</tr>
</tbody>
</table>

**TLD or RPL dosimeters can be set in the thyroid block**
**PET/SPECT Thorax Phantom**

**PET/ SPECT Thorax Phantom is an optimal tool for study in nuclear medicine**

**FEATURES**

Examination of myocardial density through SPECT imaging
- Verification of myocardial imaging with the use of various RI solution densities
- Ability to capture defects of the myocardial region
- Can reproduce image variations of the heart by injecting RI solutions in the liver, kidney and lungs

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/SPECT |
| Quality management of NM equipment |
| Myocardial density with SPECT imaging |
| RI solution density for tumor imaging |

**ANATOMY**

| Liver |
| Lung (right/left) |
| Kidney (right/left) |
| Hot spots (liver, lungs and breast) |

* Hot spot for PET can be set in liver, lungs and breast.

| Heart |
| - Anatomical type: right ventricle, left ventricle and myocardium |
| - 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 |
| 2 lungs (left and right) |
| 4 hearts |
| 1 liver |
| 2 kidneys |
| 1 rib cage and spine |
| 2 breasts |
| 3 hot spots |

| 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: W44 x H69.4 cm |
| Phantom itself: 21 kg / 46.2 lb |
| W17.3 x H27.3 in |
| when filled with liquid: 37.5 kg / 82.6 lb |

* S: Several
**PH-8 41507-000**
Lung Cancer Screening CT Phantom LSCT001

**SPECIFICATIONS**

- **Phantom size:**
  - **W44 x H69.4 cm**
  - **W17.3 x H27.3 in**

**ANATOMY**

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

**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

**DESCRIPTIONS**

**SET INCLUDES**

- 1 chest phantom
- 1 8-step linearity phantom
- 1 urethane cylinder

**MATERIALS**

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

**LINEARITY PHANTOM TARGETS**

<table>
<thead>
<tr>
<th>Linearity phantom targets</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\Delta\text{HU}=100)</td>
<td>-1000</td>
<td>-850</td>
<td>-600</td>
<td>-400</td>
</tr>
<tr>
<td>(\text{materials})</td>
<td>air</td>
<td>polyurethane</td>
<td>polyurethane</td>
<td>polyurethane</td>
</tr>
</tbody>
</table>

**PUBLICATION REFERENCES**

CT Torso Phantom CTU-41

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

**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**

| CT

**ANATOMY**

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

<table>
<thead>
<tr>
<th>Internal organs</th>
<th>Hounsfield Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft tissue around each organ</td>
<td>-7</td>
</tr>
<tr>
<td>Brain</td>
<td>40</td>
</tr>
<tr>
<td>Ventricles</td>
<td>10</td>
</tr>
<tr>
<td>Eye balls</td>
<td>20</td>
</tr>
<tr>
<td>Aorta</td>
<td>40</td>
</tr>
<tr>
<td>Vena Cava</td>
<td>40</td>
</tr>
<tr>
<td>Trachea</td>
<td>-800</td>
</tr>
<tr>
<td>The second -the third branch</td>
<td>-7</td>
</tr>
<tr>
<td>Heart</td>
<td>40</td>
</tr>
<tr>
<td>Pulmonary Blood Vassal</td>
<td>-7</td>
</tr>
<tr>
<td>Cartilage in Costae</td>
<td>90</td>
</tr>
<tr>
<td>Liver</td>
<td>70</td>
</tr>
<tr>
<td>Whole</td>
<td>40</td>
</tr>
<tr>
<td>Gallbladder</td>
<td>20</td>
</tr>
<tr>
<td>Pancreas</td>
<td>30</td>
</tr>
<tr>
<td>Spleen</td>
<td>50</td>
</tr>
<tr>
<td>Kidney</td>
<td>30</td>
</tr>
<tr>
<td>Whole</td>
<td>40</td>
</tr>
<tr>
<td>Vein</td>
<td>10</td>
</tr>
<tr>
<td>Urethra</td>
<td>10</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>10</td>
</tr>
</tbody>
</table>

**DESCRIPTIONS**

**SET INCLUDES**

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

**SPECIFICATIONS**

- Phantom height: 100 cm / 39.4 in
- Phantom weight: 45 kg / 99 lb
- Packing size: W106 x D58 x H62 cm / W42 x D23 x H24 in
- Packing weight: 52 kg / 114 lb

**MATERIALS**

- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)
Angiographic CT Head Phantom ACS

Kyoto Kagaku's best-selling CT head phantom
A new variation added: Head Phantom for MECT, which contains arteries of innovative water equivalent material

**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

**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.

**DESCRIPTIONS**

**SET INCLUDES**
1. Head phantom
2. Set of sample X-ray data (DVD)
3. Storage case

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

**SPECIFICATIONS**
- Phantom height: 33 cm / 13 in
- Phantom weight: 6.5 kg / 14.3 lb
- Packing size: W46 x D31 x H32 cm / W18.1 x D12.2 x H12.6 in
- Packing weight: 8 kg / 17.6 lb

**HU**

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

**APPLICATIONS**
- Middle cerebral artery
- Anterior cerebral artery
**Dental Radiography Head Phantom**

Removable jaws and tongue allow a variety of application for training and research

**FEATURES**
- Separately modeled each tooth 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 (41301-200)
- intra-oral (41301-300)

**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**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 main head unit</td>
<td>Soft tissue: urethane based resin (specific gravity: 1.06)</td>
</tr>
<tr>
<td>1 upper jaw (alveolar bone)</td>
<td>Synthetic bone: epoxy resin (specific gravity: 1.31)</td>
</tr>
<tr>
<td>1 lower jaw (alveolar bone)</td>
<td></td>
</tr>
<tr>
<td>1 tongue</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FIXATION BASE (INCLUDING SCREWS)</th>
<th>PHANTOM SIZE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W20 x D21 x H25 cm</td>
</tr>
<tr>
<td>1</td>
<td>W7.8 x D8.2 x H9.8 in</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PACKING SIZE:</th>
<th>PACKING WEIGHT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W66 x D54 x H34 cm</td>
</tr>
<tr>
<td>1</td>
<td>W44 x D21 x H13.3 in</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEIGHT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**PUBLICATION REFERENCES**
Read more: http://www.ncbi.nlm.nih.gov/pubmed/22612390

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

**FEATURES**

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

**APPLICATIONS**

- CT
- Multi energy CT

**ANATOMY**

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

*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 water equivalent material (WEM).—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 set of sample X-ray data (DVD)
- 1 storage case
- manual

**SPECIFICATIONS**

- Phantom size: W25 x D18 x H28 cm
- W9.8 x D7.1 x H11 in
- Phantom weight: 12 kg / 26.4 lb

- Packing size: W44 x D39 x H42 cm
- W17.3 x D15.3 x H16.5 in
- Packing weight: 19 kg / 42 lb

**MATERIALS**

- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)
### PH-18  |  41311-000
### Stomach Phantom BMU-1

**Stomach phantom for double contrast gastrography**

**FEATURES**
- Life-size distended stomach with lesions modeled from real specimens
- Barium can be poured in the stomach for imaging
- Pathology includes early cancer and gastric ulcer

**APPLICATIONS**
- Double contrast gastrography

**DESCRIPTIONS**

**SET INCLUDES**
- 1: stomach phantom
- 1: storage case

**SPECIFICATIONS**
- Phantom size: W30 x D20 x H33 cm
- Phantom weight: 16 kg / 35.3 lb
- Packing size: W51 x D39 x H51 cm
- Packing weight: 20 kg / 44 lb

**MATERIALS**
- Soft tissue: urethane based resin (specific gravity: 1.31)

### PH-19  |  41312-010
### Rotation Stomach Phantom TMP-R

**Rotational phantom to simulate double contrast gastrography**

**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
- Pathology includes early cancer and gastric ulcer

**APPLICATIONS**
- Double contrast gastrography

**DESCRIPTIONS**

**SET INCLUDES**
- 1: stomach phantom
- 1: rotation unit
- 1: controller
- 1: phantom holder
- 1: model of lesions
- 1: storage case
- 1: model of lesions
- 1: storage case

**SPECIFICATIONS**
- Phantom size: W25 x D18 x H28 cm
- Phantom size: W9.8 x D7.1 x H11 in

**MATERIALS**
- Urethane based resin / epoxy resin

**OPTIONAL PARTS**
- 41312-010-01 Extension bar
PH-46 | 41362-000
CT Prostate Phantom

Excellent phantom for therapy planning of prostate cancer

**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)

**DESCRIPTIONS**
- Set includes: 1 phantom, 1 set of sample X-ray data (DVD), 1 storage case, 1 manual

**SPECIFICATIONS**
- Phantom height: 35 cm / 13.7 in
- Packing size: W44 x D39 x H42 cm / W17.3 x D15.3 x H16.5 in
- Phantom weight: 4.5 kg / 10 lb

**APPLICATIONS**
- CT and Corn beam CT
<table>
<thead>
<tr>
<th>CT and Corn beam CT</th>
</tr>
</thead>
<tbody>
<tr>
<td>organs</td>
</tr>
<tr>
<td>Prostate</td>
</tr>
<tr>
<td>Seminal vesicles</td>
</tr>
<tr>
<td>Bladder surface</td>
</tr>
<tr>
<td>Bladder inside</td>
</tr>
<tr>
<td>Rectal surface</td>
</tr>
<tr>
<td>Rectal inner cavity</td>
</tr>
</tbody>
</table>

**MATERIALS**
- Soft tissue: urethane resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)

---

PH-71 | 41935-000
Knee Ligament Phantom

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

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

**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: 14 dia. x 45(H) cm / 5.5 dia. x 17.7(H) in
- Phantom weight: 4.5 kg / 10 lb

**APPLICATIONS**
- CT
- Plain X-ray

---
**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

**Projection type**
- 2 variations

**DESCRIPTIONS**

**SET INCLUDES**
1. lower torso phantom
2. acrylic container
4. types of colon units

**SPECIFICATIONS**
- Packing size: W63 x D50 x H29 cm W24.8 x D19.6 x H11.4 in
- Packing weight: 32 kg / 70.5 lb

**MATERIALS**
- Soft tissue: urethane based resin (specific gravity: 1.06)
- Synthetic bone: epoxy resin (specific gravity: 1.31)

**DOSIMETRY**

- Packing size: W24.8 x D19.6 x H11.4 in
- Packing weight: 70.5 lb

Product supervision:
National Cancer Center (Japan)
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

FEATURES
- Two types of replaceable training block
  - Vertebroplasty block and anesthesia block
- Lumbar spine L2-L5 can be visualized under X-ray.
- True-to-life 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

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
<th>REPLACEMENT PARTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 lumbar torso</td>
<td>Soft tissue: urethane based resin (specific gravity: 1.06)</td>
<td>41913-000-01 anesthesia block</td>
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<tr>
<td>1 vertebroplasty block</td>
<td>Synthetic bone: epoxy resin (specific gravity: 1.31)</td>
<td>41913-000-02 vertebroplasty block</td>
</tr>
<tr>
<td>1 anesthesia block</td>
<td></td>
<td>11348-150 skin cover</td>
</tr>
<tr>
<td>1 skin cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 syringe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 irrigation bag</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 storage case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECIFICATIONS
- Phantom size:
  - Packing size:
    - W33 x D21 x H30 cm
    - W52 x D44 x H30 cm
    - W20.4 x D17.3 x H11.8 in

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

“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
Multi-Energy CT (MECT) or Dual Energy CT (DECT) is a new frontier of rapidly advancing medical imaging, and now entering clinical practices in hospitals. The technology enables material differentiation, elemental decomposition and material quantification. Such features are expected to bring us better diagnosis, improved image quality, reduction of radiation exposure, reduction of contrast agent volume and opens possibility of functional imaging.

Meanwhile, further studies are awaited in various field such as quality management of CT equipment, verification of protocols, expansion of clinical application, to derive the maximum benefits from the technology. Kyoto Kagaku supports researchers and clinicians with up-to-date innovative phantoms.

In many MECT/DECT studies, water phantoms have been used. However, using real water can impose considerable work in preparation and handling. At the same time, using acrylic containers limits the design of phantoms.

Preparation of phantoms takes too much time

Need to standardize the examination

Want to test the protocols on something anthropomorphic

Have to conduct quality test

New lineup of Kyoto Kagaku Multi-Energy CT phantoms assists you promptly, saving your time and energy

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

Product Lineup

CT Abdomen Phantom
Abdomen with MECT compatible vessels and liver

Angiographic CT Head Phantom ACS
Head with MECT compatible arteries

Sample product
Gout Foot Phantom

Multi Energy CT Quality Assurance Phantom
Phantom for quality assurance. A variety of research samples can be inserted using small containers.

Iodine concentrations can be custom-ordered

Contact us!

Preparation of phantoms takes too much time

Need to standardize the examination

Want to test the protocols on something anthropomorphic

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Multi Energy CT Quality Assurance Phantom
Phantom for quality assurance. A variety of research samples can be inserted using small containers.

Iodine concentrations can be custom-ordered

Contact us!
Vital factor for Multi-Energy-CT Phantom "Water Equivalent Material"

**About Water Equivalent Material (WEM)**

WEM has high equivalency to water in diagnostic energy ranges (40-190 keV).

Co-developed with: Professor Ichikawa Katsuhiro, Faculty of Health Sciences, Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University, Japan

Unlike conventional "water substitute" materials, the Water Equivalent Material maintain water equivalency under low energy range. This feature support studies that involve iodine quantification.

Save time, costs and efforts to design and produce custom acrylic water phantoms. Unlike water phantoms, phantoms with solid materials reduce the troublesome process to change water and inside rods.

**Supports iodine quantification and material-decomposition**

Unlike conventional "water substitute" materials, the Water Equivalent Material maintain water equivalency under low energy range. This feature support studies that involve iodine quantification.

**Save time and trouble for study and expand possibilities**

Save time, costs and efforts to design and produce custom acrylic water phantoms. Unlike water phantoms, phantoms with solid materials reduce the troublesome process to change water and inside rods.

**Experiment**

Place the material inserts on water tank

WEM

Nine rods of WEM are "invisible" under CT

conventional materials

Two rods of WEM and for conventional materials for phantoms

**CONCLUSION**

1. Kyoto Kagaku Multi-Energy CT phantoms may save time and cost of preparing custom made phantoms for the researchers.

2. Water Equivalent Material (WEM), enable to create phantoms with innovative designs while ensuring credibility of water phantoms.

Co-developed with:
Katsuhiro Ichikawa, Ph.D.,
Institute of Medical,
Pharmaceutical and Health Sciences,
Kanazawa University

**FEATURES**
- Phantom using innovative Water Equivalent Material
- Empty bottles enable to put various items and check how they react to Multi Energy CT
- Save time and efforts to produce custom-made water phantoms
- Two different sizes of body. (TR-I, TR-J)

**Rods**

<table>
<thead>
<tr>
<th>Color</th>
<th>Name</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>Water Equivalent Material Rods</td>
<td>Ø20mm</td>
<td>8</td>
</tr>
<tr>
<td>Red</td>
<td>Titanium Rod</td>
<td>Ø12mm</td>
<td>1</td>
</tr>
<tr>
<td>Blue</td>
<td>Soft tissue (equivalent to liver)</td>
<td>Ø20mm</td>
<td>1</td>
</tr>
<tr>
<td>Blue</td>
<td>Iodine concentration 4mg/mL</td>
<td>Ø20mm</td>
<td>1</td>
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<tr>
<td>Blue</td>
<td>Iodine concentration 8mg/mL</td>
<td>Ø20mm</td>
<td>1</td>
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<tr>
<td>Blue</td>
<td>Iodine concentration 12mg/mL</td>
<td>Ø20mm</td>
<td>1</td>
</tr>
<tr>
<td>Transparent</td>
<td>Iodine concentration 12mg/mL</td>
<td>Ø20mm</td>
<td>1</td>
</tr>
<tr>
<td>Actual Water</td>
<td></td>
<td>Ø20mm</td>
<td>1</td>
</tr>
<tr>
<td>Empty bottle with spacer *for experiment</td>
<td></td>
<td>Ø20mm</td>
<td>20</td>
</tr>
</tbody>
</table>

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

**EVALUATION PARAMETERS**
- Uniformity
- Signal-to-noise ratio (SNR)
- Image contrast
- CT dose index (CTDI)

**DESCRIPTIONS**

**SET INCLUDES**
1. oval phantom
2. internal cylindrical phantom
3. Filling rods for dosimeter holes
8. WEM rods
3. Iodine concentration (4, 8, 12mg/mL)
1. titanium rod
1. soft tissue rod
1. contrast evaluation rods
20. empty bottle
8. spacer for empty bottle
manual

**SPECIFICATIONS**

Phantom size (TR-I):

Phantom size (TR-J):
PH-74  41938-000
Bone Scintigraphy Quality Assurance Phantom

An innovative QA phantom for Bone Scintigraphy, Bone SPECT/CT and NaF-PET

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

DESCRIPTIONS

SET INCLUDES
- 1 phantom
- 1 screwdriver
- 1 funnel
- 1 petroleum jelly
- 1 needle
- 1 manual

SPECIFICATIONS
- Phantom size:
  OD: W310 x D210 x H355 mm
  W12.2 x D8.2 x H14 in
  ID: W290 x D190 x H300 mm
  W11.4 x D7.5 x H11.8 in

MATERIALS
- Acrylic resin
- Tough lung (PVA acetal compound)
CT ERF Phantom HIT

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

FEATURES

- The phantom is designed to physically and quantitatively evaluate iteratively reconstructed images in the low CNR area, such as abdomen, where MTF of PSF is less useful.
- The phantom uses edge spread function (ESF) to calculate MTF of the low CNR images, which facilitate assessing performance properties of iteratively reconstructed images under low CNR.

APPLICATIONS

- CT

DESCRIPTIONS

SET INCLUDES

1. cylindrical container (200 mm dia.)
1. fixture for the cylindrical container storage case
5. measurement plates
1. rotation holder

SPECIFICATIONS

Phantom size: 20 dia. x 25 cm
Phantom weight: 4.5 kg / 10 lb
7.8 dia. x 9.8 in

MATERIALS

Acrylic resin, polyurethane

OPTIONAL PARTS

41919-010
Angle adjustment holder (table-top type)
Compatible with PH-9

PHANTOM SIZE

Image slice thickness 0.5mm

MTF

Spatial frequency (cycles/mm)

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0

0
0.2
0.4
0.6
0.8
1.0
1.2
1.4

org
weak
mild
std
str

- Modulation Transfer Function
- Phantom size: 20 dia. x 25 cm
- Phantom weight: 4.5 kg / 10 lb
- Phantom size: 7.8 dia. x 9.8 in
Tomosynthesis Phantom NS

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

APPLICATIONS

| Tomosynthesis

EVALUATION PARAMETERS

| Verification of reconstruction interval
| Slice thickness
| Uniformity

DESCRIPTIONS

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: 0.5 mm/0.02 in thick
Acrylic plate 5 mm/0.2 in thick.
*the aluminum plate is sandwiched between layers of Acrylic 70 x 150 mm/2.8 x 5.9 in

Uniformity unit

For evaluation of uniformity and tilting of the examination table
70 x 150 mm/2.8 x 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

MATERIALS

Acrylic resin, bakelite, aluminum, copper, stainless

SET INCLUDES

1: reconstruction positioning unit
1: slice thickness unit
1: uniformity unit
1: height setting rack manual

SPECIFICATIONS

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

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

Packing weight:
2 kg / 4.4 lb
Thorax Low Contrast Phantom ODA-LC

For image evaluation of low contrast targets with CT, tomosynthesis as well as cone beam CT

Product Supervision:
Professor Nobuhiro Oda, Kyoto College of Medical Science

**FEATURES**

- Comparison between CT and tomosynthesis images
- Three different plains with a single scan
- A variety of nodules that simulate GGO
- Quantitative evaluation of image quality using CNR of simulated nodules
- Visual evaluation of image quality, using contrast detail diagram
- Elliptical radiation absorber that simulate human body to study scattering effect of soft tissue

<table>
<thead>
<tr>
<th>Modality</th>
<th>CT</th>
<th>tomosynthesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sectional Image</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absorbed Dose</td>
<td>11.9mGy (CTDlvol)</td>
<td>0.4mGy (CTDlvol)</td>
</tr>
<tr>
<td>Tube Voltage</td>
<td>120kv</td>
<td>120kv</td>
</tr>
</tbody>
</table>

**APPLICATIONS**

- CT
- Tomosynthesis

**SPECIFICATIONS**

Simulated nodules:
Sizes: 2, 3, 4, 5, 7 and 10 mm
(0.08, 0.12, 0.16, 0.2, 0.28 and 0.4) dia.
HU number: 0, -250, -375, -550, -640, -730, -780, -825

**DESCRIPTIONS**

Specific gravity of simulated nodules
*Specific gravity of the background is 0.14

**MATERIALS**

PP, polyurethane foam, polyurethane

---

**PH-57 | 41922-000**

Kyoto Kagaku Product Lineup Web
CT-DI Phantom (Head and Body Phantom)


**FEATURES**

Represent adult head and body as well as pediatric body.

**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. x 15 cm / 12.6 dia. x 5.9 in
  - Head phantom: 16 dia. x 15 cm / 6.3 dia. x 5.9 in
- Phantom weight:
  - 15kg / 33lb
  - 4kg / 8.8lb

**MATERIALS**

Acrylic resin

---

CT QA Phantom JCT Ⅱ

Renovated CT QA phantom for initial test at the time of reception, as well as follow-up periodical quality check of CT scanners.

**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

**DESCRIPTIONS**

**SET INCLUDES**

- 1 cylindrical container (fixing screw)
- 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 phillips screwdriver
- 1 vaseline
- 1 screws (spare)
- manual

**SPECIFICATIONS**

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

**MATERIALS**

Acrylic resin, polyurethane, stainless 📚
Multi Slice CT Phantom MHT

The phantom can be used for features of CT evaluation such as high and low contrast resolutions, feed direction and CTDI

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

**APPLICATIONS**
- CT

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

**DESCRIPTIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
<th>OPTIONAL PARTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 low contrast phantom</td>
<td>Acrylic resin, polyurethane</td>
<td>41334-110 sliding phantom holder</td>
</tr>
<tr>
<td>1 high contrast phantom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 elliptical absorber</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 low contrast phantom with CTDI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 micro disc phantom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 angle adjustment holder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>manual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PH-9 41334-000**

**Dosimetry**

**CT QA Phantom CT-200B**

12 features of evaluation to cover recommendation of Japanese Committee

**FEATURES**
- 11 features of CT evaluation are possible by using interchangeable measurement units
- In accordance with second recommendation of Japanese Committee for evaluating performance of CT scanners

**DESCRIPTIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 set of QA phantoms</td>
<td>Phantom size: 20 dia. cm / 7.9 dia. in</td>
</tr>
<tr>
<td>1 storage case</td>
<td></td>
</tr>
</tbody>
</table>
CT-AEC Phantoms

Four types of phantoms designed to evaluate CT-AEC performance

**FEATURES**

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

**APPLICATIONS**

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

**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**

- 1 phantom

**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**

PH-6B | 41310-020
Dynamic Cardiac CT Phantom MD-CT

For evaluation and research in ECG gating cardiac and thoracic CT

**FEATURES**
- The heart phantom is made of human tissue substitute
- Simulated coronary arteries including stenosis can be attached to the wall of the phantom heart
- The phantom generates pulses that are synchronized with the cardiac movement for ECG gating
- Controllable parameters include pulse rate, ejection volume and ejection fraction
- Operation with the touch panel controller is simple and easy

**APPLICATIONS**
- Measurement of the left ventricle ejection fraction (EF)
- Image quality evaluation of coronary arteries

**DESCRIPTIONS**

**SET INCLUDES**
- 1 drive unit
- 3 heart phantoms (3 types, 1 each)
- 1 protective cover
- 1 set of simulated coronary arteries
- 1 controller
- 1 storage case

**PH-9-2 | 41334-120
Ladder Phantom

Evaluation of spatial resolution if simulated contrast enhanced vessels in CT

**FEATURES**
- On each plate phantom of 5 mm thickness, five slits of 5 mm length are made to represent vessels
- Nine variations of vessel width are prepared

**APPLICATIONS**
- Evaluation of spatial resolution of simulated contrast enhanced vessels in CT

**DESCRIPTIONS**

**SET INCLUDES**
- 1 outer phantom
- 9 ladder phantoms
- 1 storage case

**SPECIFICATIONS**
- Vessel width: 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.0, 1.2, 1.5 mm
- 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

**OPTIONAL PARTS**
- 41339-060 Angle adjustment holder for GE
- 41339-050 Angle adjustment holder for cannon
- *Specify the manufacturer and type of the scanner*
Digital Mammographic Phantom NCCE (fall)

Four types of phantoms designed to evaluate CT-AEC performance
Image quality can be evaluated by noise and S.D. on the phantom section images

**FEATURES**
- Outer shape of the phantom simulates a compressed breast of D shape
- Targets include 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**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 phantom</td>
</tr>
</tbody>
</table>

BMD Chart Phantom UHA

Bone Mineral Density chart for microdensitometry (MD) method

**FEATURES**
- 21 steps with different hydroxyapatite content
- Steps range from 0 to 400 mg/cm³ with 20mg/cm³ difference each

**APPLICATIONS**
- Microdensitometry

**DESCRIPTIONS**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 chart phantom</td>
</tr>
</tbody>
</table>
PH-17 | 41317-000
Water Body Phantom WAC

**DESCRIPTIONS**

**SET INCLUDES**

1. body phantom
1. storage case

**SPECIFICATIONS**

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

PH-14 | 41430-000-
Acrylic Phantom XAC

**FEATURES**

- Water body phantom represents human chest and abdomen to serve as radiation absorber and scatterer.

**DESCRIPTIONS**

**SET INCLUDES**

1. chart phantom
1. storage case

**VARIATIONS**

<table>
<thead>
<tr>
<th>VARIATION</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>XAC-01</td>
<td>30 x 30 x 0.1 cm/11.8 x 11.8 x 0.04 in</td>
</tr>
<tr>
<td>XAC-02</td>
<td>30 x 30 x 0.2 cm/11.8 x 11.8 x 0.08 in</td>
</tr>
<tr>
<td>XAC-03</td>
<td>30 x 30 x 0.3 cm/11.8 x 11.8 x 0.12 in</td>
</tr>
<tr>
<td>XAC-04</td>
<td>30 x 30 x 0.4 cm/11.8 x 11.8 x 0.16 in</td>
</tr>
<tr>
<td>XAC-05</td>
<td>30 x 30 x 0.5 cm/11.8 x 11.8 x 0.2 in</td>
</tr>
<tr>
<td>XAC-08</td>
<td>30 x 30 x 0.8 cm/11.8 x 11.8 x 0.3 in</td>
</tr>
<tr>
<td>XAC-1</td>
<td>30 x 30 x 1 cm/11.8 x 11.8 x 0.4 in</td>
</tr>
<tr>
<td>XAC-2</td>
<td>30 x 30 x 2 cm/11.8 x 11.8 x 0.8 in</td>
</tr>
<tr>
<td>XAC-3</td>
<td>30 x 30 x 3 cm/11.8 x 11.8 x 1.2 in</td>
</tr>
<tr>
<td>XAC-4</td>
<td>30 x 30 x 4 cm/11.8 x 11.8 x 1.6 in</td>
</tr>
<tr>
<td>XAC-5</td>
<td>30 x 30 x 5 cm/11.8 x 11.8 x 2.0 in</td>
</tr>
<tr>
<td>XAC-8</td>
<td>30 x 30 x 8 cm/11.8 x 11.8 x 3.1 in</td>
</tr>
<tr>
<td>XAC-10</td>
<td>30 x 30 x 10 cm/11.8 x 11.8 x 3.9 in</td>
</tr>
</tbody>
</table>

PH-16 | 41318-000-
Contrast Detail Phantom

**DESCRIPTIONS**

**FEATURES**

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

**SIZE**

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

**SET INCLUDES**

1. chart phantom
1. storage case
**Dynamic Thorax Phantom**

*Anthropomorphic chest phantom for respiratory gating*

**PH-39 | 41326-000**

**Features**
- TLD can be inserted to simulate the nodule
- Six preset respiratory patterns are prepared
- Respiratory patterns can be modified and saved
- Up to three different respiratory patterns can be run in sequence

**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**

- Drive unit
- Chest phantom
- Mediastinum phantom
- Nodule rotation unit
- Diaphragm block
- Set of simulated nodules
- Controller
- Storage case
- Manual

**Applications**

- Respiratory gating CT
- Dosimetry
- Radiation therapy

**Pathology**

- Pulmonary nodule
- Stenosis of coronary arteries

**Controllable Parameters**

- Heart rate: 30-120 times/min
- Ejection volume: 60, 70, 80, 90, 100 ml
- Respiration rate: 6-24 cycles/min
- Linear movement of nodule unit: 0-1.5 in
- Rotation range of nodule unit: 50-70 degrees

---

**Dynamic Heart and Lung Phantom**

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

**PH-48 | 41327-000**

**Features**
- The 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

**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, 100 ml
- Respiration rate: 6-24 cycles/min
- Linear movement of nodule unit: 0-1.5 in
- Rotation range of nodule unit: 50-70 degrees

**Descriptions**

**Set Includes**

- Drive unit
- Nodule rotation unit
- Diaphragm block
- Chest phantom
- Types of heart unit
- Set of simulated tumors (15 types)
- Tablet PC
- Storage case
- Manual
PH-40/ 41/ 42

Tough Phantom Series

**PH-40**
Tough Water Phantom WD

**PH-41**
Tough Bone Phantom BE-T, BE-H, BE-NWD

**PH-42**
Tough Lung Phantom LP

**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)

**Material**
Epoxy resin

**Material**
Phenolic resin

**VARIATIONS**

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

**VARIATIONS**

| BE-T-2005 | Compact Bone 200x200x5mm / 8x8x0.2 in |
| BE-T-2010 | Compact Bone 200x200x10mm / 8x8x0.4 in |
| BE-T-2020 | Compact Bone 200x200x20mm / 8x8x0.8 in |
| BE-H-2005 | Cortical Bone 200x200x5mm / 8x8x0.2 in |
| BE-H-2010 | Cortical Bone 200x200x10mm / 8x8x0.4 in |
| BE-H-2020 | Cortical Bone 200x200x20mm / 8x8x0.8 in |
| BEA-2005 | Inner Bone 200x200x5mm / 8x8x0.2 in |
| BE-N-2010 | Inner Bone 200x200x10mm / 8x8x0.4 in |

**VARIATIONS**

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

**Material**
Epoxy resin

**Material**
Phenolic resin

**Human tissue substitute phantoms with water equivalent physical properties**

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

**Human lung substitute phantoms to simulate body structure in combination with PH-40 and PH-41**
Phantoms for therapeutic energy range

**Therapy Body Phantom THRA-1**

PH-37 | 41480-000

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

**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 storage case  |
| 1 supporting frame | manual         |
| insert rods for dosimeter holes |          |

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Phantom height:</th>
<th>Phantom weight:</th>
<th>Slice thickness:</th>
<th>Dosimeter holes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 cm / 35.5 in</td>
<td>33 kg / 72.7 lb</td>
<td>3 cm / 1.2 in</td>
<td>in lattice-like pattern of 3 x 3 cm / 1.2 x 1.2 in</td>
</tr>
</tbody>
</table>

**PH-38 | 41480-010**

Pediatric Therapy Body Phantom THRA-2

**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 storage case  |
| 1 supporting frame | manual         |
| insert rods for dosimeter holes |          |

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Phantom height:</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 cm / 23.6 in</td>
</tr>
</tbody>
</table>
MRI Quality Assurance Phantom MHR/ JMR II

This QA phantom for MRI allows to evaluate the slice thickness, spatial resolution, uniformity and geometric distortion as well as contrast

PH-31 MHR: compiled with NEMA standards

**FEATURES**

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

**APPLICATIONS**

MRI

**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. phantom unit B
1. liquid paraffin
1. spout
5. NiCl 50ml (5, 10, 15, 20, 25 mmol)
7. sample bottle (13.5ml)

**MATERIALS**

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

**SPECIFICATIONS**

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

**PH-32B JMR 2**

**SET INCLUDES**

1. phantom unit A
1. phantom unit B
1. liquid paraffin
1. spout
3. NiCl 50ml (5, 10, 15 mmol)
3. sample bottle (9ml)

**MATERIALS**

- Acrylic resin, MRI solution:

**SPECIFICATIONS**

- Dimensions: 18 dia. x 13(H) cm
- 7.1 dia. x 5.1 in
PH-72 | 41936-000
MRI Breast QA phantom

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

**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

**DESCRIPTIONS**
- **SET INCLUDES**
  - 2 breast MRI evaluation unit (2 types, 1 each)
  - 1 adjustment bolts
  - 1 supporting plate
  - 1 storage case

- **MATERIALS**
  - Acrylic resin

- **SPECIFICATIONS**
  - Phantom dimensions: 30 x 40 x 26 cm, 5kg
  - 11.8 x 15.7 x 10.2 in, 11 lb

**APPLICATIONS**
- MRI

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

---

PH-33 | 41330-010
MRI Head Phantom NH

Life-size head phantom to assess uniformity

**DESCRIPTIONS**
- **SET INCLUDES**
  - 1 head phantom
  - 1 nickel chloride solution
  - 1 spout
  - 1 storage case
  - 1 manual

- **MATERIALS**
  - Acrylic resin

- **SPECIFICATIONS**
  - Phantom size:
    - W17 x D22 x H30 cm
    - W6.7 x D8.6 x H11.8 in

**APPLICATIONS**
- MRI
- SPECT / CT
- CT

**COMPLIES WITH**
- JIS Z 4924

---

PH-34 | 41501-000
MRI/NM Head Phantom BHC

Simulate life-size head images in MRI and NM

**DESCRIPTIONS**
- **SET INCLUDES**
  - 1 head phantom
  - 2 simulated tumor
  - 1 nickel chloride solution
  - 1 storage case

- **SPECIFICATIONS**
  - Phantom height:
    - 33 cm/ 12.9 in

**APPLICATIONS**
- MRI
- SPECT / CT
- CT
PH-64 | 41928-000
PET/ SPECT Brain Phantom

Nucleus and the caudate nucleus for I-123 DatSCAN

FEATURES
Anthropomorphic head phantom simulates the absorption and scatter characteristics of head and skull.
RI solution can be injected to striatum and putamen.

ANATOMY
Brain ventricle  |  Putamen
Striatum        |  Cerebrum
Caudate nucleus |  Skull

APPLICATIONS
SPECT, DatSCAN

DESCRIPTIONS
PH-53 | 41918-000
Brain Phantom IB-20 advanced

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS: common with IB-20

DESCRIPTIONS
PH-27 | 41530-000
Brain Phantom IB-10

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS:
- Homogeneity evaluation
- Cross calibration
- Gamma ray absorption rate by a skull
- Detectivity of gray matter and white matter
- Spatial resolution of negative images (IB-10 set only)
- Radioactive concentration and linearity of SPECT value (IB-10 set only)

DESCRIPTIONS
PH-46 | 41928-000
PET/ SPECT Brain Phantom

Nucleus and the caudate nucleus for I-123 DatSCAN

FEATURES
Anthropomorphic head phantom simulates the absorption and scatter characteristics of head and skull.
RI solution can be injected to striatum and putamen.

ANATOMY
Brain ventricle  |  Putamen
Striatum        |  Cerebrum
Caudate nucleus |  Skull

APPLICATIONS
SPECT, DatSCAN

DESCRIPTIONS
PH-53 | 41918-000
Brain Phantom IB-20 advanced

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS: common with IB-20

DESCRIPTIONS
PH-27 | 41530-000
Brain Phantom IB-10

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS:
- Homogeneity evaluation
- Cross calibration
- Gamma ray absorption rate by a skull
- Detectivity of gray matter and white matter
- Spatial resolution of negative images (IB-10 set only)
- Radioactive concentration and linearity of SPECT value (IB-10 set only)

DESCRIPTIONS
PH-46 | 41928-000
PET/ SPECT Brain Phantom

Nucleus and the caudate nucleus for I-123 DatSCAN

FEATURES
Anthropomorphic head phantom simulates the absorption and scatter characteristics of head and skull.
RI solution can be injected to striatum and putamen.

ANATOMY
Brain ventricle  |  Putamen
Striatum        |  Cerebrum
Caudate nucleus |  Skull

APPLICATIONS
SPECT, DatSCAN

DESCRIPTIONS
PH-53 | 41918-000
Brain Phantom IB-20 advanced

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS: common with IB-20

DESCRIPTIONS
PH-27 | 41530-000
Brain Phantom IB-10

APPLICATIONS
SPECT, PET

EVALUATION PARAMETERS:
- Homogeneity evaluation
- Cross calibration
- Gamma ray absorption rate by a skull
- Detectivity of gray matter and white matter
- Spatial resolution of negative images (IB-10 set only)
- Radioactive concentration and linearity of SPECT value (IB-10 set only)

DESCRIPTIONS
**PET/ SPECT Thyroid Phantom AT**

Five kinds of thyroid with different capacities for uptaking rate measurement

- **Features**
  - Anthropomorphic thyroid phantom simulates the absorption and scatter characteristics of human neck area that surrounds thyroid.
  - For quality assurance of system for iodine uptake ratio test; scatter, attenuation, and sensitivity.

- **Anatomy**
  - Cervical spine C3 to C7
  - Thoracic spine T1
  - Clavicle
  - Breastbone (half)
  - Thyroid (5 variations)

<table>
<thead>
<tr>
<th>Volume</th>
</tr>
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<tbody>
<tr>
<td>Thyroid 1</td>
</tr>
<tr>
<td>Thyroid 2</td>
</tr>
<tr>
<td>Thyroid 3</td>
</tr>
<tr>
<td>Thyroid 4</td>
</tr>
<tr>
<td>Thyroid 5</td>
</tr>
</tbody>
</table>

- **Materials**
  - Soft tissue: urethane based resin
  - Synthetic bone: epoxy resin
  - Thyroid: acrylic resin
  - Thyroid container: urethane based resin
  - Bronchus: acrylic resin

- **Specifications**
  - Phantom size: W40 x D18 x H16 cm 4kg
  - W15.7 x D7 x H6.3 in 8.8 lb

**Thyroid Phantom UN**

Five kinds of thyroid volume containers for measurement purposes

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

- **Anatomy**
  - Cervical vertebrae from C3 to C7

- **Specifications**
  - Phantom size: W40 x D18 x H16 cm 4kg
  - W15.7 x D7 x H6.3 in 8.8 lb

- **Materials**
  - Container: acrylic resin
  - Synthetic bone: epoxy resin
  - Thyroid: acrylic resin

- **Descriptions**
  - Neck cover for thyroid
  - Thyroid containers
  - Storage case
  - Manual
**PH-26 | 41503-000**  
ORINS Thyroid Phantom ITS

**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**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 main Phantom Body</td>
<td>Acrylic resin</td>
<td>Phantom size: W32 x D22 x H31 cm / W12.5 x D8.6 x H12.2 in</td>
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<tr>
<td>1 right Lung</td>
<td>Acrylic resin</td>
<td>Phantom weight: 7.1 kg / 15.6 lb</td>
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<tr>
<td>1 left Lung</td>
<td>Spine: Epoxy Resin (similar to human in HU)</td>
<td>Packing size: W44 x D39 x H42 cm</td>
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<tr>
<td>1 mediastinum</td>
<td>Heart: Acrylic Resin, Acrylic resin</td>
<td>W17.3 x D15.3 x H16.5 in</td>
</tr>
<tr>
<td>1 liver</td>
<td>Lung: Foamed Resin, Water</td>
<td>Packing weight: 12.5 kg / 27.5 lb</td>
</tr>
</tbody>
</table>

**MATERIALS**
- Petroleum jelly
- Screwdriver
- Storage case
- Manual

**PH-24 | 41333-000**  
Myocardial Phantom HL

**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**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
<th>SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 main Phantom Body</td>
<td>Acrylic resin</td>
<td>Phantom size: 12.5 dia. x 12.5 (H) cm/4.9 dia. x 4.9(H) in</td>
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<tr>
<td>1 right Lung</td>
<td>Acrylic resin</td>
<td>Phantom weight: 7.1 kg / 15.6 lb</td>
</tr>
<tr>
<td>1 left Lung</td>
<td>Spine: Epoxy Resin (similar to human in HU)</td>
<td>Packing size: W44 x D39 x H42 cm</td>
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<tr>
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<td>W17.3 x D15.3 x H16.5 in</td>
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<tr>
<td>1 liver</td>
<td>Lung: Foamed Resin, Water</td>
<td>Packing weight: 12.5 kg / 27.5 lb</td>
</tr>
</tbody>
</table>

**MATERIALS**
- Petroleum jelly
- Screwdriver
- Storage case
- Manual

**PH-29 | 41540-030**  
ECT Hot Cold Phantom SP-6

**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**

<table>
<thead>
<tr>
<th>SET INCLUDES</th>
<th>MATERIALS</th>
<th>SPECIFICATIONS</th>
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</thead>
<tbody>
<tr>
<td>1 phantom</td>
<td>Acrylic resin</td>
<td>Phantom size: 21 dia. x 16 (H) cm / 8.2 dia. x 6.2 (H) in</td>
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<tr>
<td>1 storage case</td>
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</table>
SPECT QA Phantom JSP

For daily quality control in SPECT and PET imaging

**FEATURES**

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

**APPLICATIONS**

SPECT and PET

**EVALUATION PARAMETERS**

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<th>Uniformity</th>
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<tr>
<td>Spatial resolution</td>
<td>Image distortion</td>
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</table>

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

**MATERIALS**

Phantom: methacrylic resin

**SPECIFICATIONS**

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

**COMPILS WITH**

JIS Z 4922

Optional Parts for PH-28 and 30

**HOLDER AND ACCESSORIES**

Specify the manufacturer and type of the scanner
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Thanks to the support of our customer and stakeholders, on June 8, 2018, we are celebrating our 70th anniversary. We would like to express our deepest gratitude to all of you who have supported us throughout these years.

Formerly known as “the specimen’s division” of Shimadzu Corporation, Kyoto Kagaku was founded on June 8, 1948.

In line with our company philosophy, “We, Kyoto Kagaku, aim to be as one with our community,”, we have contributed to our community through education, culture and welfare. Now in the wake of medical advancement, our activities are widely involved in the field of medical, nursing, welfare education to support healthcare professionals throughout the world.

Upon the occasion of our 70th anniversary, we wish to advance toward the world to achieve further growth and prosperity. We intend to preserve the important tradition built by our predecessors, develop our strengths, respond to the changes of the times and create a foundation for new growth.

We sincerely wish you all your continued guidance and encouragement in the future.

Sincerely,

1st June. 2018
Tamotsu Katayama
President
Kyoto Kagaku Co., Ltd

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Kyoto Kagaku Co., Ltd Nagoya Branch
3rd Gojinsha Meieki3 bldg., 9-37 Meieki-3-chome,
Nishi-ku, Nagoya City, Aichi 451-0045, Japan

Kyoto Kagaku Co., Ltd Sendai Branch
6th. Taiyoseimei Sendaihoncho bldg., 4-18 Honcho-3-chome,
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