

Caution:

Don't mark on the phantom with pen or leave printed materials contacted on its surface.
Ink marks on the phantom will be irremovable.

PH - 1

Multipurpose Chest Phantom N1 "LUNGMAN"

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Instruction Manual

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Movie Site



English Site

Chest Phantom N1 is designed for plain X-ray and CT scanning, by which chest images approximate to clinical ones can be obtained.

Features

1. Arms abducted position of the phantom allows lateral X-ray and CT scanning.
2. Pulmonary vessels and bronchus up to the first bifurcation are three dimensionally disposed in the phantom lung field.
3. Mediastinum and pulmonary vessels are one piece structure.
4. Abdomen (diaphragm) block and mediastinum/vessels part can be taken out from the bottom opening of the phantom.
5. Simulated tumors can be attached to arbitrary position in the lung field by using double-sided tape or other adhesives.

DOs and DON'Ts

DOs

Handle with care.

The materials for phantom and models are special composition of resin. Please handle with care at all times.

Cleaning and care

Clean the phantom completely every time after the training.

Keep the phantom at room temperature, away from heat, moisture and direct sunlight.

DON'Ts

Never wipe the phantom or models with thinner or organic solvent.

Don't mark on the phantom with pen or leave printed materials contacted on their surface. Ink marks on the models will be irremovable.

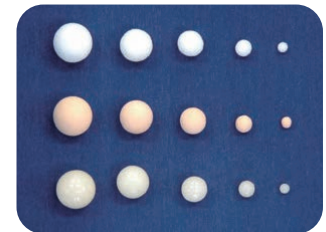
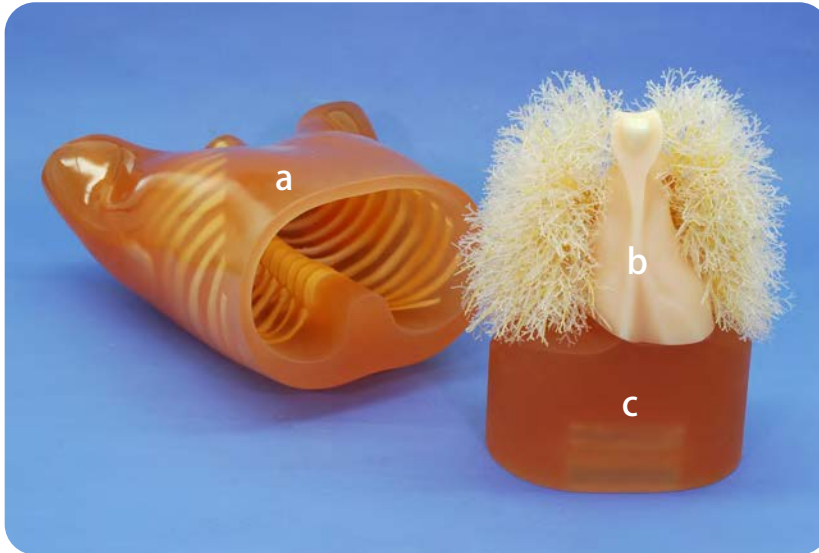
Please note: The color of the phantom may change over time, though, please be assured that this is not deterioration of the material and the radiographic features of the phantom stay unaffected.

Be careful: To take out the phantom from the case

Lay the case horizontally when you take out the phantom from the case. Do not lift the phantom while the inner structures is inside. In case you do, hold the bottom section firmly, so that the inner structures will not slip out.

Set includes

Before your first use, please ensure that you have all components listed below.



- a Main body (chest wall)
- b Mediastinum (heart and trachea included)
- c Abdomen (diaphragm) block
- d Simulated tumors: 15 variations
3 varieties of Hounsfield numbers: -800, -630, +100
5 sizes for each time: diameter 3, 5, 8, 10, 12 mm

■ Size:

Height: approx. 45cm
The measurement around the chest: approx. 94cm
Weight: approx. 18kg

■ Materials:

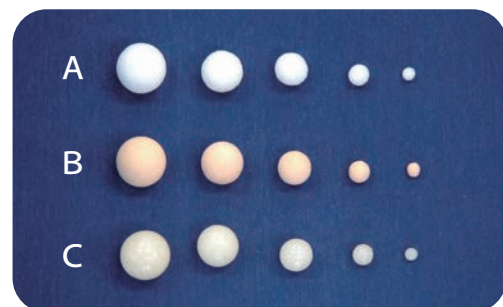
Soft tissue and vessels	Polyurethane (gravity1.06)
Synthetic bones	Epoxy resin and calcium carbonate

■ Simulated tumors

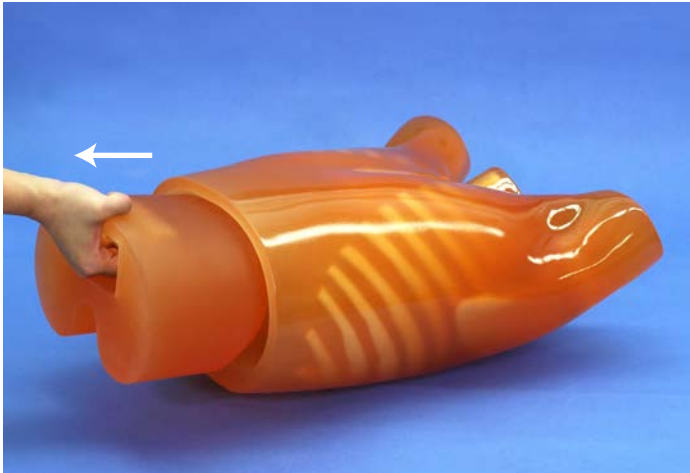
Size: diameter 3, 5, 8, 10, 12mm
Shape: sphere

Color	Hounsfield number	Material
A White	Approx. HU-800	Urethane foam
B Pale orange	Approx. HU-630	Urethane foam
C Cream	Approx. HU + 100	Polyurethane, SZ50 and hydroxyapatite

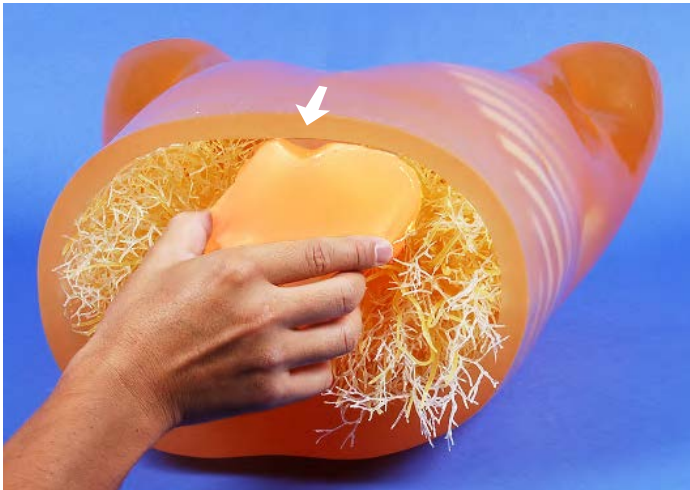
Total 15 piece



1 Detach the internal phantom structure



- ① Lay the phantom body in supine position and pull out the abdomen block by holding the indentation at the bottom section of the phantom.



- ② Hold the lower part of the heart and pull out the mediastinum unit carefully.

Caution: Do not grab or pull the vessels. It may cause breakage in the phantom.



- ③ Keep the mediastinum unit upright and put it on the abdomen (diaphragm) block at any time when it is detached from the phantom body.

Caution: Do not put the mediastinum unit horizontally with the vessel part contacted with the ground or table top.

The weight of the unit may cause breakage in the vessels.

2 Attach the simulated tumors

- ① Put simulated tumors to the pulmonary vessels by double sided-tape.

A pair of tweezers will help to put them closer to the heart.

**2 Attach the internal phantom structure**

- ② Insert the mediastinum unit carefully into the phantom body by holding the lower part of the heart.

Take note to the direction so that the indentation on the front surface of the heart fit to the projection on the inner surface of the chest wall.

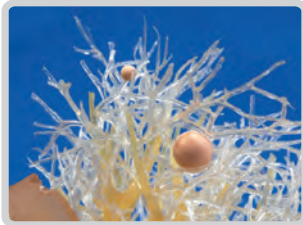
- ③ Insert the abdomen (diaphragm) block. The slit on the back of the block fits the spine.



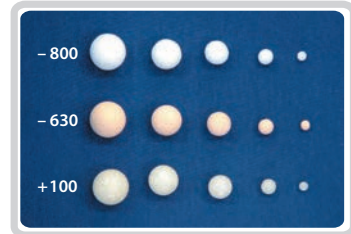
Training

Training

■ "LUNGMAN" Training



Attach the simulated tumors



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

Computed tomography

CT scan training
Interpretation training
Assessment of computer-aided detection systems

CT



Plain radiography

Radiograph training
Interpretation training
Assessment of tube voltages, films and other devices

PLAIN X-RAY

Comparison

Review the plain X-ray



Improve interpretation skills

Comparison between Plain X-ray and CT, as well as between these images and the direct observation of the phantom, helps trainees to have three dimensional understanding and to improve X-ray interpretation skills.



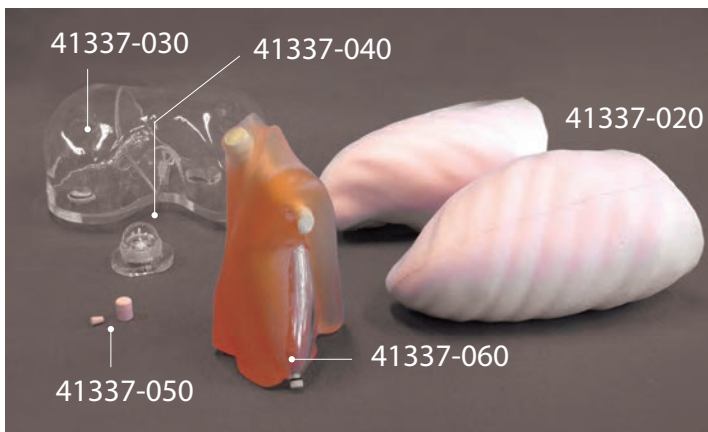
Optional parts

Optional parts



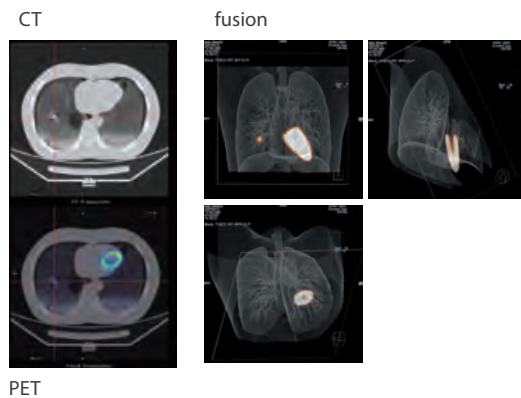
chest plates

41337-010	chest plates
41363-020	carrying case



Components for Radioisotope

- 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
- 41337-070 Simulated tumors (a set of 15 variations)





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