

## CHEST OVERLAY PLATES

These are fitted specifically to the Fission-Product Phantom and are not interchangeable with the Livermore Phantom.

## THE THYROID PHANTOM

The Thyroid Phantom is an integral part of the Fission-Product Phantom, but it can also be supplied separately (with or without a head). This phantom has the same contours as in the full Fission-Product Phantom.



The Thyroid Phantom contains a neck with corresponding "Superhuman Skeleton" vertebrae, a hollow-shell thyroid with filling and flushing ports, and a front cover of tissue-equivalent phantom material.

This assembly has been designed for rapid removal of the cover plate and thyroid, a quick fill with an isotope solution and an equally rapid reassembly. This permits work with iodines of very short half-lives. A portion of the clavicles and sternum are included to further enhance the realism of the phantom.

## RADIONUCLIDES

RSD routinely manufactures active organs with isotopes to suit users' needs. Active capsules to fit into the gridded holes are available, or empty capsules can be supplied to be filled by the user.

RSD usually supplies the required isotopes, but users may furnish them if so desired.

Isotopes are most often received as calibrated solutions, traceable to the NIST. Organ loading is controlled by micropipetting aliquots from the calibrated solutions. Uraniums and plutoniums are traceable to the NIST by mass. Other isotopes are usually traceable by activity.

Some isotopes are manufactured only at intervals throughout the year, so delivery is subject to availability. In some cases, calibration costs from governmental sources are subject to wide fluctuations.

### Model Number

#### RS-500

Lawrence Livermore Realistic Phantom System includes: torso and gridded torso cover, inert heart, lungs, lymph nodes, liver and liver envelope or abdominal contents. All blocks needed for organ location and soft tissue continuity within torso. Documentation. Permanent shipping and storage case.

### Model Number

#### RS-550

Fission-Product Phantom System, includes: head, neck, neck cover plate for thyroid access, complete torso and gridded torso cover, inert heart, lungs, lymph nodes, thyroid, liver, kidneys, stomach, pancreas, spleen, small and large intestines. Stub legs with pivot bolts. Documentation. Permanent shipping and storage case.

### **Capsules**

#### **RS-520**

Active Capsule (isotope and activity to be specified).

#### **RS-521**

Inert Capsule with sealing cap, to be filled by user.

### **Thyroid Phantom**

#### **RS-542**

Thyroid Phantom without head; consists of neck, hollow thyroid, thyroid cover, a portion of the cervical spine, sternum and clavicles

#### **RS-545**

Thyroid Phantom with head; (same as RS-542 but with head and full cervical spine)

#### **RS-543A**

Thyroid, solid, active

#### **RS-534S**

Thyroid, hollow, inert

### **Chest Overlay Plates**

#### **RS-513**

(1, 2, 3, 4)

(A, B, C)

Chest Overlay Plate (Any of 4 thicknesses)

#1 – thinnest, #4 – thickest

=A) 87% adipose – 13% muscle

B) 50% adipose – 50% muscle

C) 100% muscle

#### **RS-514**

(A, B, C)

Chest Overlay Plates

Set of 4, in materials A, B, or C