

# 3 Dimensional Torso Phantom

Model 602



## USER GUIDE

**CIRS**

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## OVERVIEW

The CIRS Anthropomorphic Torso Phantom is designed to provide an accurate simulation of an average male torso for medical imaging applications. The removable organs enable flexibility in the placement of TLD's, contrast agents, etc. The epoxy materials used to fabricate the phantom provide optimal tissue simulation in the diagnostic energy range and up to 20 MeV.

The phantom simulates the physical density and linear attenuation of actual tissue to within two percent in the diagnostic energy range.

## PHANTOM DESCRIPTION

Each phantom contains removable organs. Included organs are lungs, heart, liver, pancreas, kidney, and spleen. The lower portion of the phantom contains a removable soft bolus material simulating a mix of 50 percent adipose and 50 percent muscle tissue.

This insert is used to maintain the position of the organs when the phantom is placed upright. For ease of removal, the bolus is enveloped in a screen-bag. Simulated muscle material layers the rib cage and vertebral column.

The exterior envelope simulates a mix of 30 percent adipose and 70 percent muscle tissue. The phantom is sealed at the bottom by an acrylic plate. Water or blood mimicking fluid can be used to fill all the interstitial voids.

## SPECIFICATIONS

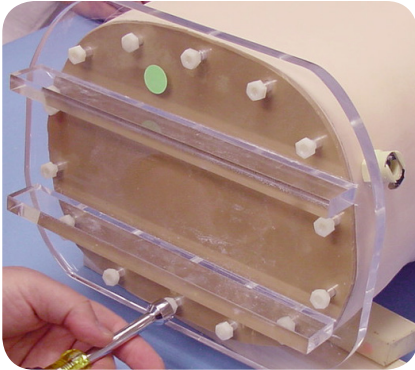
<b>OVERALL DIMENSIONS:</b>	60 cm x 38 cm x 23 cm (22" x 15" x 9")
<b>WEIGHT:</b>	52 lbs. (19.4 kg)
<b>MATERIALS:</b>	Phantom Body: Epoxy Resin Phantom Lower Portion: Soft Bolus Material, 30 % Adipose & 70 % Muscle Tissue

## MODEL 602 INCLUDES

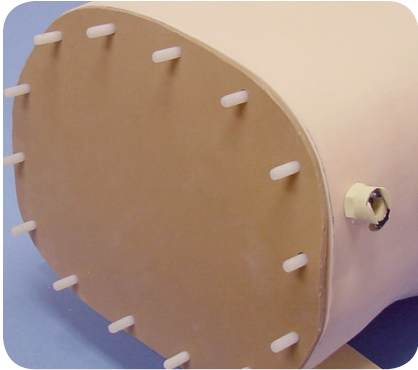
QTY	DESCRIPTION
1	3 Dimensional Torso Phantom with removable lungs, heart, liver, pancreas, spleen and kidneys
1	Tubing, couplers, vacuum pump and hardware for phantom filling
1	User Guide
1	Foam-Lined Carry Case
-	60-Month Warranty

# TORSO ASSEMBLY PROCEDURE

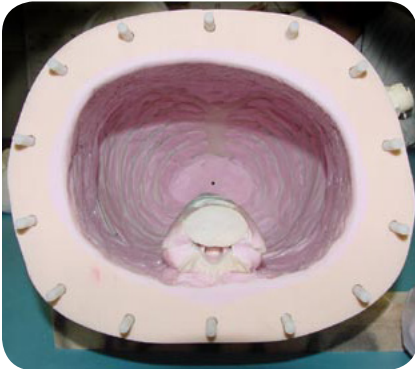
(All references to right or left are with phantom facing forward)



1. Remove base to gain access to cavity.



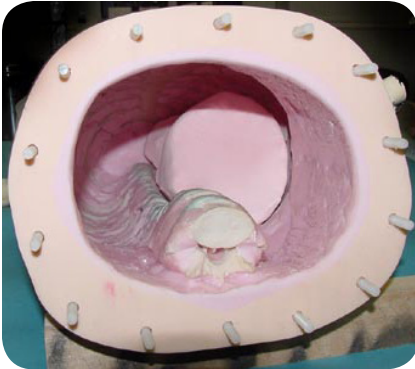
2. Remove gasket from bottom of phantom.



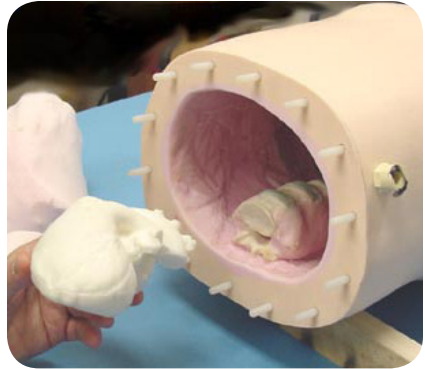
3. Open the cavity of the phantom.



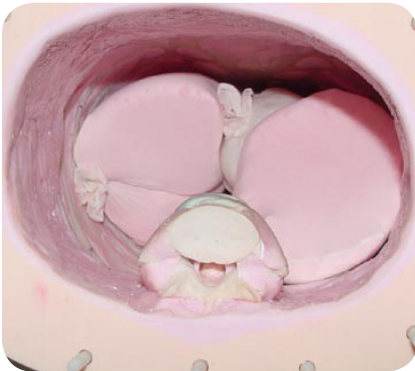
4. Insert left lung (2 parts) placing small lobe first and then inserting large lobe. Large lobe must be put into the cavity on the right side and then twisted into position on left side.



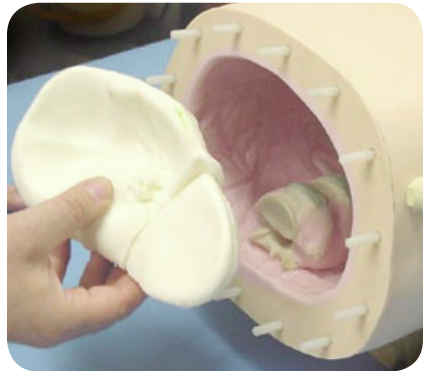
5. Left lung in proper location. Lungs are fabricated of a fragile material and are protected in a net like casing. **Use care when handling the lungs.**



6. Insert right lung (3 Pieces). To get the organs in the correct location first insert the upper lobe, insert the heart, the middle lobe, and finally the lower lobe.



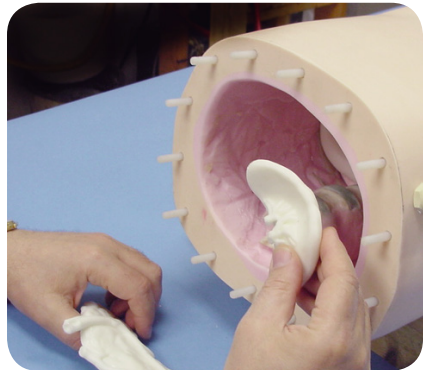
7. Cavity with lungs and heart.



8. Insert the liver.



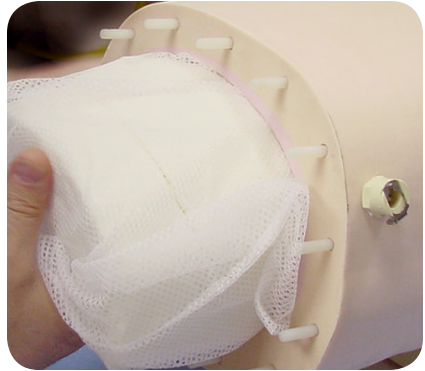
9. Correct position of the liver.



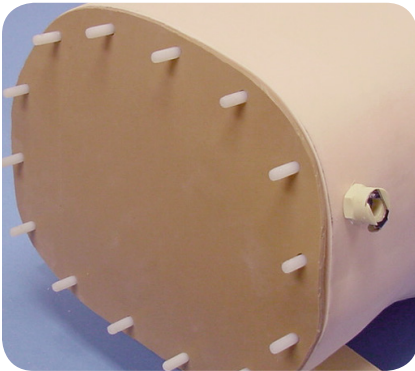
10. Insert the spleen.



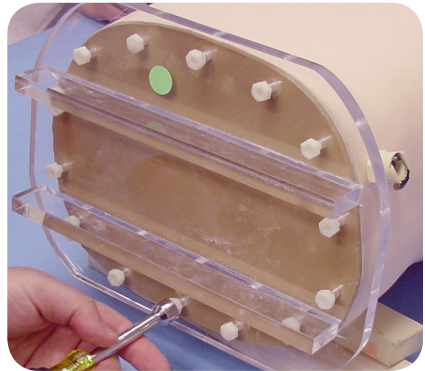
11. Insert the pancreas.



12. Insert the bolus with kidneys  
(will be a tight fit).

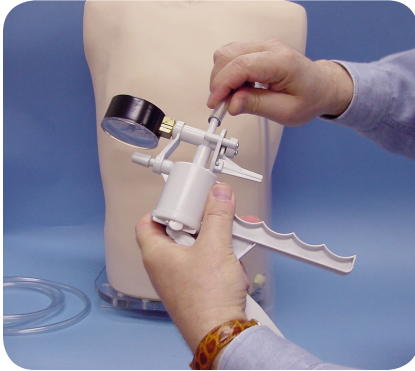


13. Apply the gasket to the base  
of the phantom.



14. Attach the acrylic base then the  
nylon securing nuts. Tighten  
securing nuts uniformly with the  
wrench provided. **Do Not Over  
tighten.**

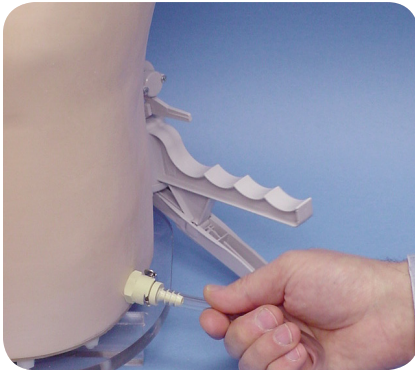
## FILLING AND USE OF PHANTOM



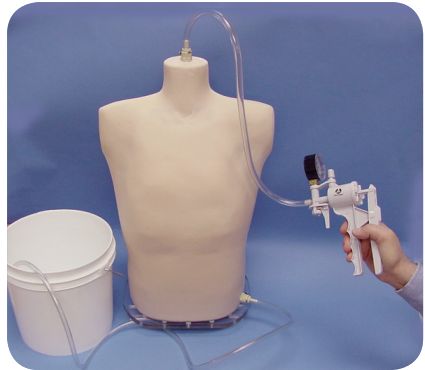
1. Attach vacuum pump and hoses (neck and left side).



2. Attach one end of the hose to the top neck section of the phantom.



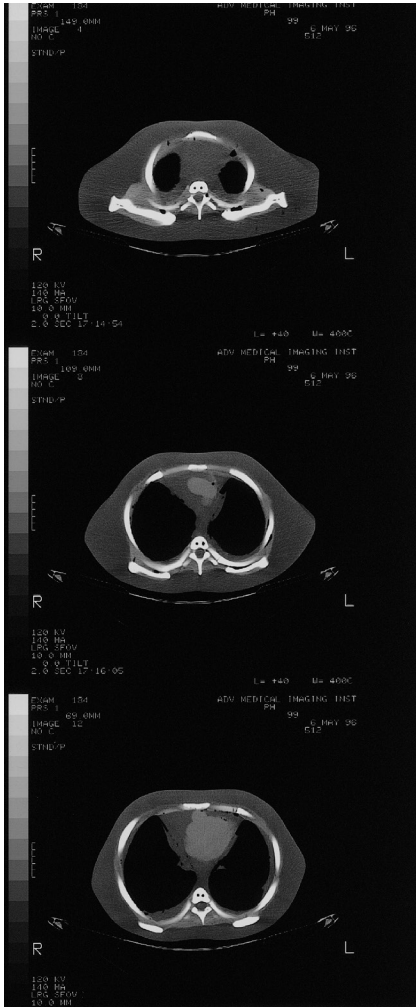
3. Attach the water port to a bucket filled with water. **Note:** It is recommended that you add a small amount of anti-bacterial solution to the water in order to prevent possible bacterial growth.
4. Vacuum slowly to permit air to escape from entire cavity. Do not permit water to reach the vacuum pump. Watch the clear tubing and stop vacuum process when water is visible in the first 6 inches exiting the top of the phantom.



5. Remove hoses.
6. Image phantom.
7. At completion of imaging, drain water from bucket near base of phantom to accept water from the phantom, which will drain by gravity. Insert both tubes in special fittings and place lower tube in drain bucket to capture draining water.

8. For storage of the phantom remove each organ and dry thoroughly. Never store for long periods of time with water left in phantom.
9. Removal of organs as described is accomplished by reversing the sequence above.

## CT IMAGES OF TORSO PHANTOM



## WARRANTY

All standard CIRS products and accessories are warranted by CIRS against defects in material and workmanship for a period as specified below. During the warranty period, the manufacturer will repair or, at its option, replace, at no charge, a product containing such defect provided it is returned, transportation prepaid, to the manufacturer. Products repaired in warranty will be returned transportation prepaid.

There are no warranties, expressed or implied, including without limitation any implied warranty of merchantability or fitness, which extend beyond the description on the face hereof. This expressed warranty excludes coverage of, and does not provide relief for, incidental or consequential damages of any kind or nature, including but not limited to loss of use, loss of sales or inconvenience. The exclusive remedy of the purchaser is limited to repair, recalibration, or replacement of the product at manufacturer's option.

This warranty does not apply if the product, as determined by the manufacturer, is defective because of normal wear, accident, misuse, or modification.

### Non-Warranty Service

If repairs or replacement not covered by this warranty are required, a repair estimate will be submitted for approval before proceeding with said repair or replacement.

### Returns

If you are not satisfied with your purchase for any reason, please contact your local distributor prior to returning the product. Visit <https://www.cirsinc.com/distributors/> to find your local distributor. If you purchased your product direct through CIRS, call Customer Service at 800-617-1177, email [rma@cirsinc.com](mailto:rma@cirsinc.com), or fax an RMA request form to 757-857-0523. CIRS staff will attempt to remedy the issue via phone or email as soon as possible. If unable to correct the problem, a return material authorization (RMA) number will be issued. Non-standard or "customized" products may not be returned for refund or exchange unless such product is deemed by CIRS not to comply with documented order specifications. You must return the product to CIRS within 30 calendar days of the issuance of the RMA. All returns should be packed in the original cases and or packaging and must include any accessories, manuals and documentation that shipped with the product. The RMA number must be clearly indicated on the outside of each returned package. CIRS recommends that you use a carrier that offers shipment tracking for all returns and insure the full value of your package so that you are completely protected if the shipment is lost or damaged in transit. If you choose not to use a carrier that offers tracking or insure the product, you will be responsible for any loss or damage to the product during shipping. CIRS will not be responsible for lost or damaged return shipments. Return freight and insurance is to be pre-paid.

### With RMA number, items may be returned to:

CIRS  
Receiving  
900 Asbury Ave,  
Norfolk, Virginia, 23513 USA

Product	Warranty Period
Model 602 - 3 Dimensional Torso Phantom	60 Months

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