

Point Source Phantom SMR360 M a n u a l

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WARNING

The use of this phantom requires radioactive fill solutions. Only people trained in the safe handling of these materials, following all applicable safety requirements, should fill and use this phantom.

When inserting the ECTphan™ Phantom end plate, follow the instructions listed in this manual. Do not use the nylon screws to set in lid.

To prevent damage to your ECTphan™ Phantom do not let it freeze when filled with a solution.

This product has an FH3-4 mm/min flame rating and is considered to be flammable. It is advised not to expose this product to open flame or high temperature (over 125° Celsius or 250° Fahrenheit) heating elements.

WARRANTY

THE PHANTOM LABORATORY INCORPORATED (“Seller”) warrants that this product shall remain in good working order and free of all material defects for a period of one (1) year following the date of purchase. If, prior to the expiration of the one (1) year warranty period, the product becomes defective, Buyer shall return the product to the Seller at:

The Phantom Laboratory Incorporated
2727 State Route 29
Greenwich, NY 12834
or
PO Box 511
Salem, NY 12865-0511

Seller shall, at Seller’s sole option, repair or replace the defective product. The Warranty does not cover damage to the product resulting from accident or misuse.

IF THE PRODUCT IS NOT IN GOOD WORKING ORDER AS WARRANTED, THE SOLE AND EXCLUSIVE REMEDY SHALL BE REPAIR OR REPLACEMENT, AT SELLER’S OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT. THIS LIMITATION APPLIES TO DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, DIRECT OR INDIRECT DAMAGES, LOST PROFITS, OR OTHER SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER FOR BREACH OF CONTRACT, TORT OR OTHERWISE, OR WHETHER ARISING OUT OF THE USE OF OR INABILITY TO USE THE PRODUCT. ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANT ABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED.

SMR360

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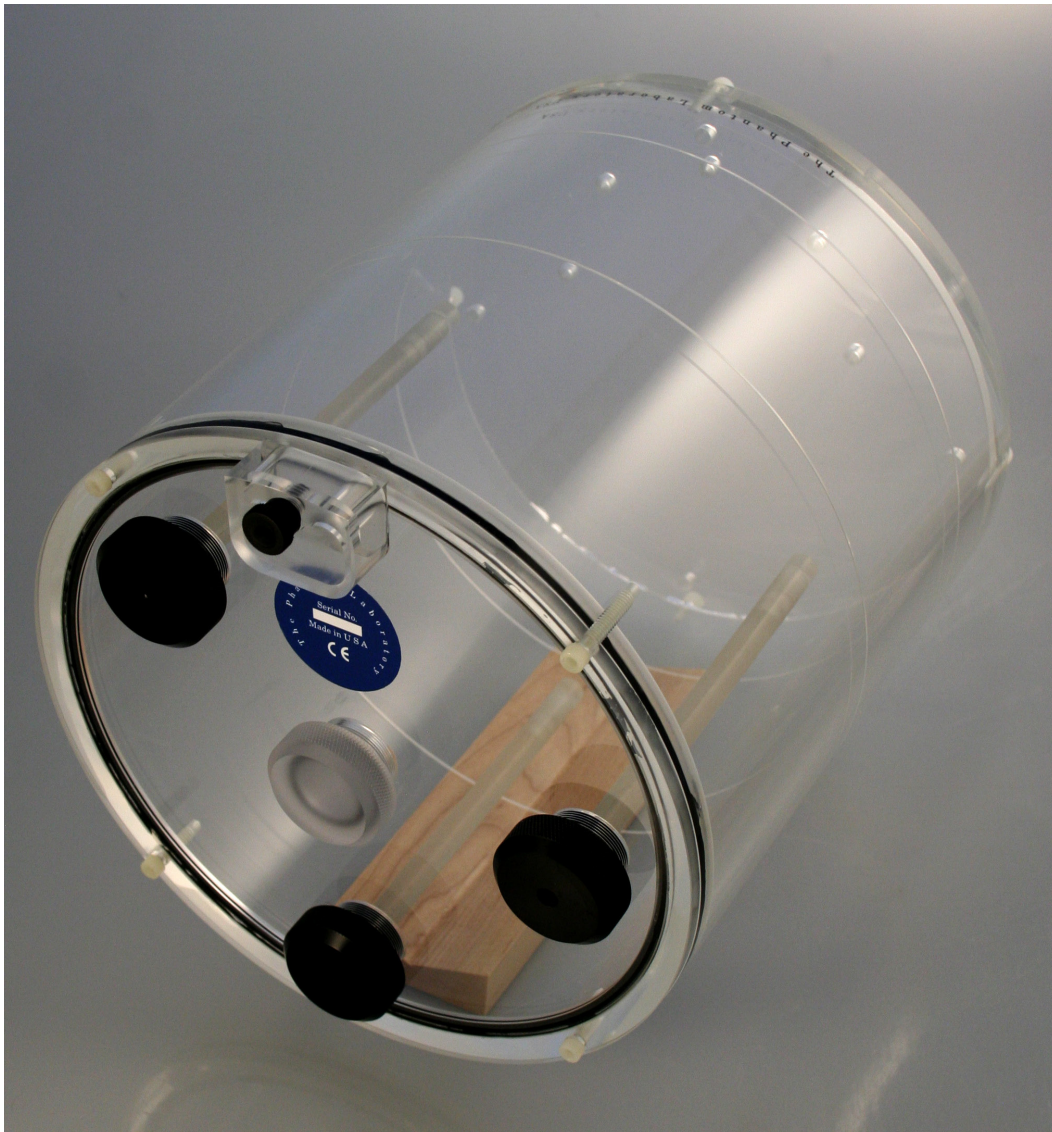
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Introduction

This phantom was developed with a 0.0123cc point source for the evaluation of higher resolution ECT imaging systems.

Because each medical imaging facility has its own unique set of requirements, we do not make specific recommendations on the content of your quality assurance program. This manual provides basic information on filling your phantom and assumes that the users are trained in the science of nuclear medical equipment measurements.



Point Source Phantom

The Point Source Phantom is a cylindrical, liquid filled container with three point sources each with a 0.0123cc volume.

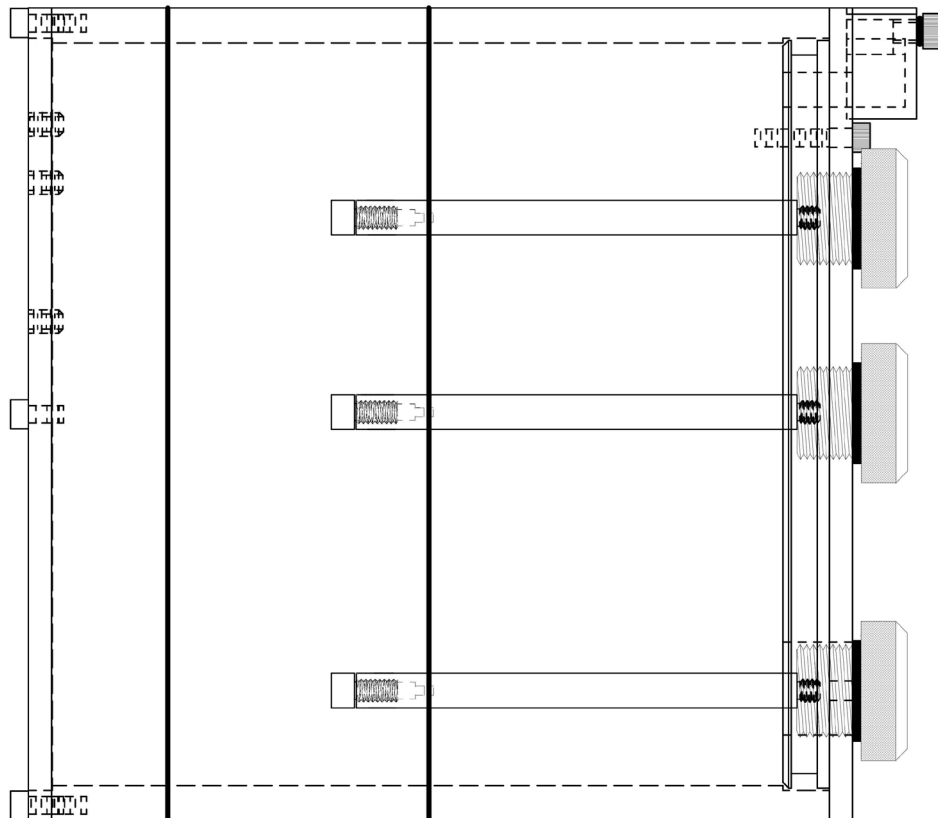
The phantom enables some flexibility in its configuration. There are 4 threaded holes in which the 3 point source plugs can be inserted.

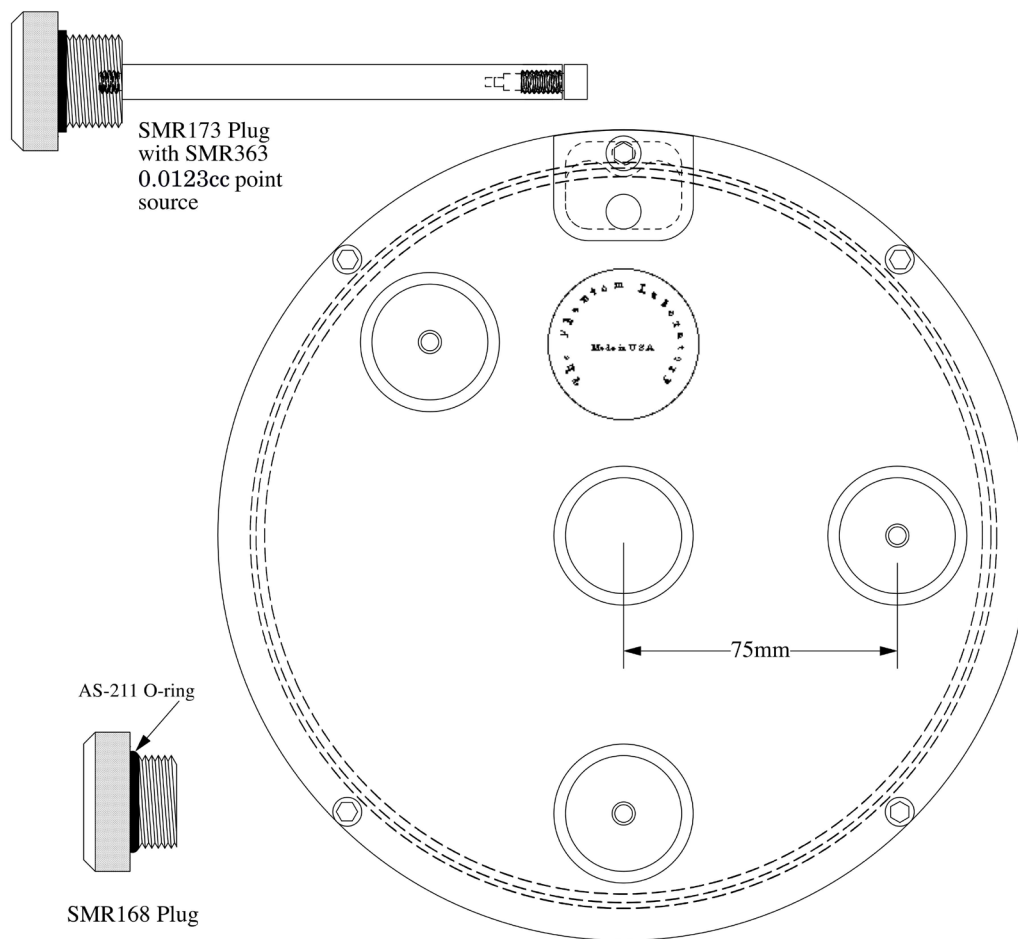
Overall Phantom dimensions:

Diameter	20.3cm ID, 22.2cm OD
Length	20.0cm inner length, 25.6cm maximum outer length

Composition:

Acrylic housing and polycarbonate inserts (liquid filled)

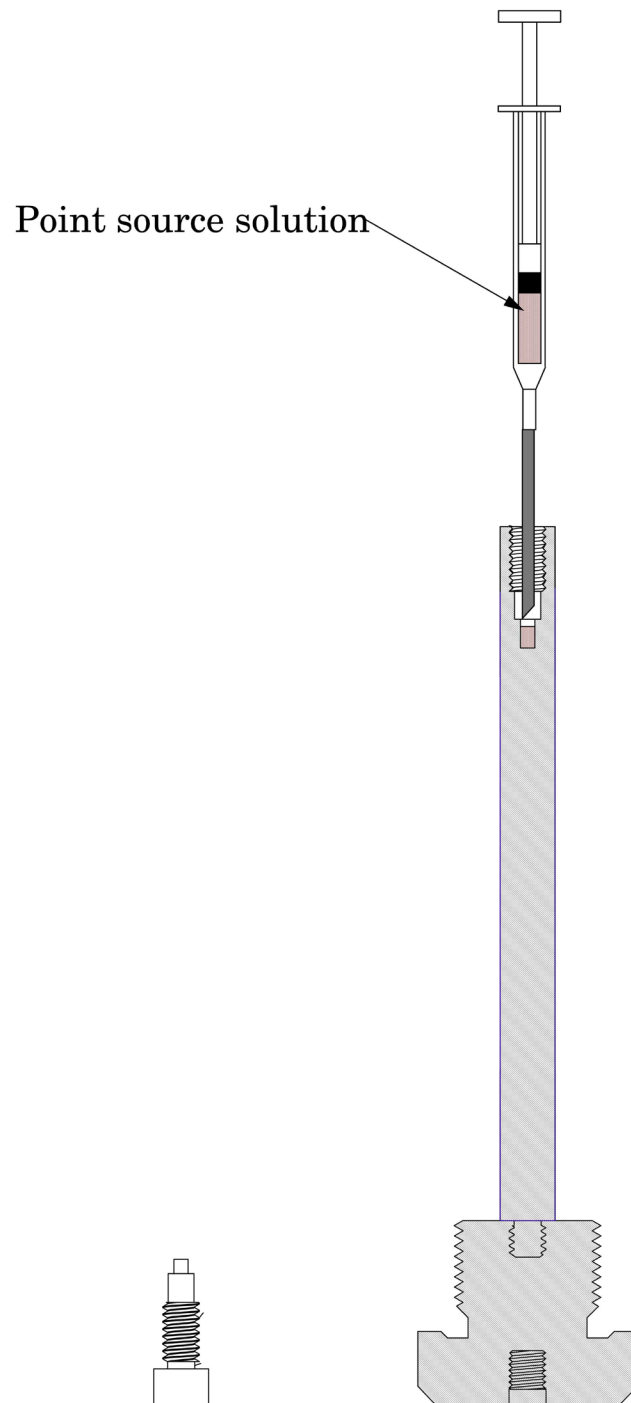




End plate with four test rod locations which can also be plugged with the SMR168 plug and three SMR173 plugs.

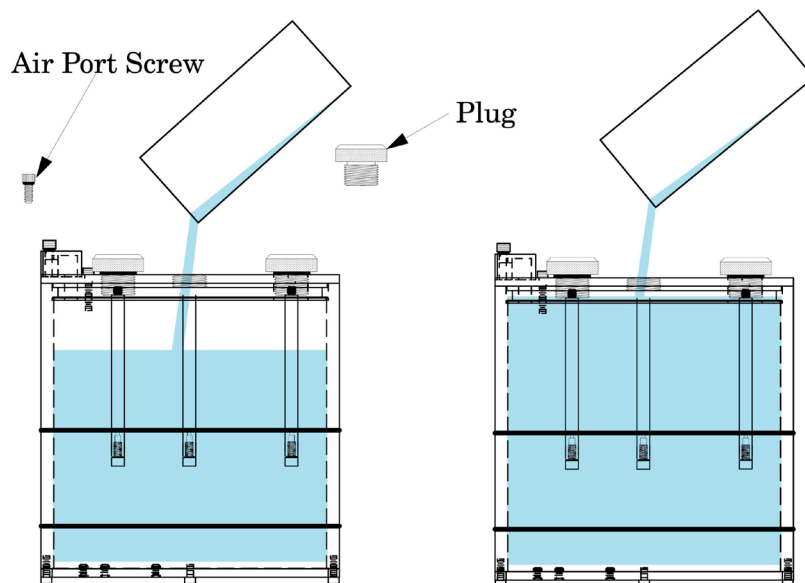
Filling the point sources

Fill a small syringe with hot solution. Remove the threaded plug from the end of the point source body. Insert less than 0.0123cc into the point source. Insert the threaded plug.



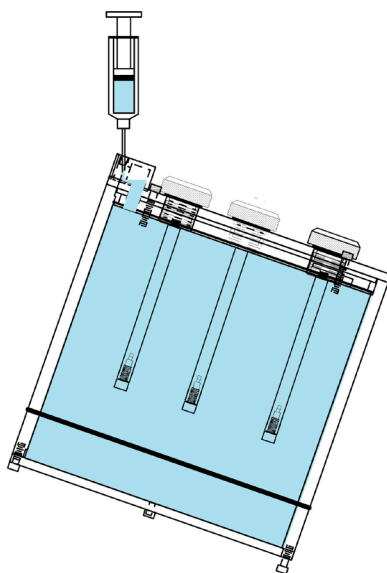
Filling the phantom tank

Fill the phantom tank with water (distilled or deionized is preferred). Note; The following images are from the ECTphan™ SMR330 which uses the same housing as the SMR360.

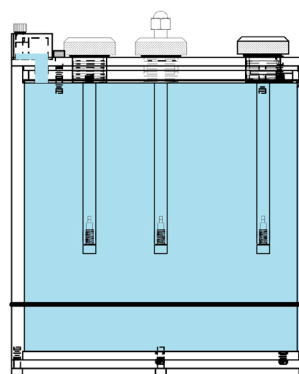


Remove air port and plug

Fill phantom body and insert plug



Top off phantom leaving a little air in the air port.



Insert air port screw and check all plugs

Mounting and removing tank end plate

Empty liquid from the phantom cylinder by removing the fill ports at the end of the phantom.

The cylinder end plate can be removed after draining the liquid. Remove the 4 nylon screws that go through the end plate. Hook your fingers through the plug holes in the end plate and work it out of the phantom cylinder. The use of a lubricating gel, such as K-Y® Jelly, will make it easier to open and close the o-ring seal and will help to prevent leaks.

To mount the tank end plate, loosely place it on the phantom. Loosely thread the 4 nylon screws into the phantom (do not tighten these screws). Evenly press the end plate with your hands into the phantom (do not use the screws). Once the end plate is seated, lightly tighten the 4 nylon screws.

