

SOLID PHANTOM[®]

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Head Phantom: PH-HEAD
Left Hand Phantom: PH-LHS
Right Hand Phantom: PH-RHS



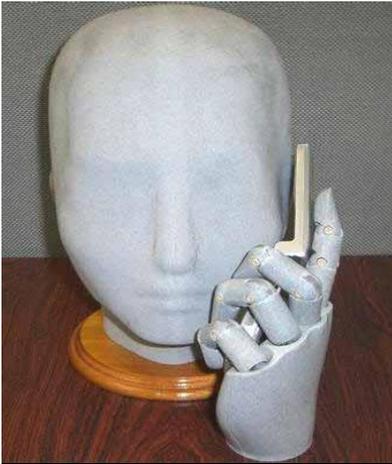
Made of lightweight dielectric materials

Measurements and experimental works, taking possible interaction with parts of human body adjacent to objects under tests into account, are becoming more and more significant as required for example, in development of antennas for cellular phones. To serve such requirements, various types of PHANTOM simulating shapes and dielectric properties of human body are being used. Many of those PHANTOM's, however, are composed of either liquids in containers or some other materials such as ceramics and are not necessarily easy to handle due to their heavier weights, etc.

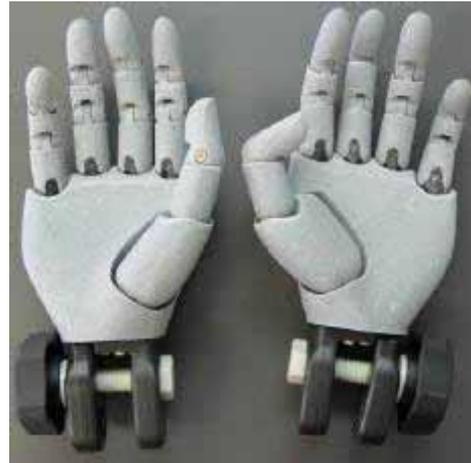
Our recently developed SOLID PHANTOM could overcome major drawbacks of other competitive products by using “hollow micro spheres” - contained synthetic resins mixed with electrically conductive fibers, resulting in “light in weight”, “easy to control dielectric properties” and “flexible for various contour” through molding process.

Features

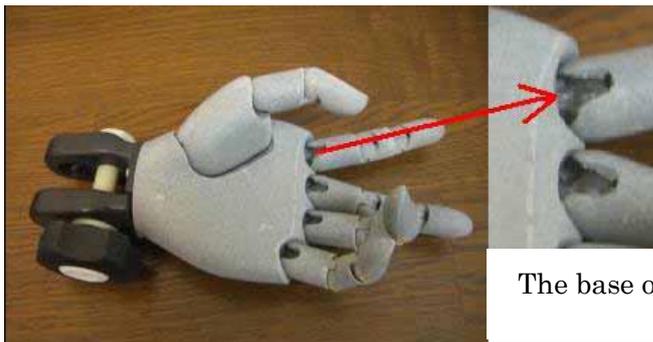
- *Light in weight and easy to handle
- *High impact resistance and excellent durability
- *Versatility in final shapes
- *No decomposition, no souring
- *Easy to control dielectric properties simulating different parts of human body
- *Specific gravity: 0.7-0.8 g/cc



PH-HEAD
Head Phantom



PH-LHS, PH-RHS
Left Hand Phantom & Right Hand Phantom
Movable finger Phantom
(With joint jig)



The base of joint finger

Not only there is a joint total of 15 locations, base of the finger has become a spherical joint as shown in the photograph, finger movable phantom, can have closely those of various forms



You can have the object to be measured in a more natural form.



Because the base of the finger joint is spheroidal, it is possible to spread the finger.



PH-LA, PH-RA
Phantom Left Arm, Phantom Right Arm



Because the joint is in the form that sandwich the spherical,
various movements will be possible.



PH-CHEST
Phantom Chest



Phantom Upper Body Set
Including PH-HEAD, PH-CHEST,
PH-LA, PH-RA, PH-LHS and PH-RHS.

Phantom series has upper body set including, PH-HEAD, PH-CHEST, PH-LA, and also has whole body set plus lower body.

Upper body set shoulder, elbow, wrist move freely, so it is possible to take the form as in the photo at the top right.

Whole body set including between chest and waist, hip and elbow, ankle joint.

These are also moveable and can take both the standing position and sitting position.

(In the case of standing position, using attached acrylic assisting tool.)

Only each joint parts do not perform a dielectric constant control but it is made without any metal parts.



In addition, There are PH-EL(Left ear) and PH-ER(Right ear) which can be used measurement of headphones using Blue tooth and PH-HEAD-E which has to be attached to the left and right ears on the head.

Ear part is made from special silicon resin and rich in flexibility so, wearing earphone is also possible as shown in the center photo below.



PH-EL (Left Ear)



PH-HEAD-E with Ear



PH-HEAD-E without Ear

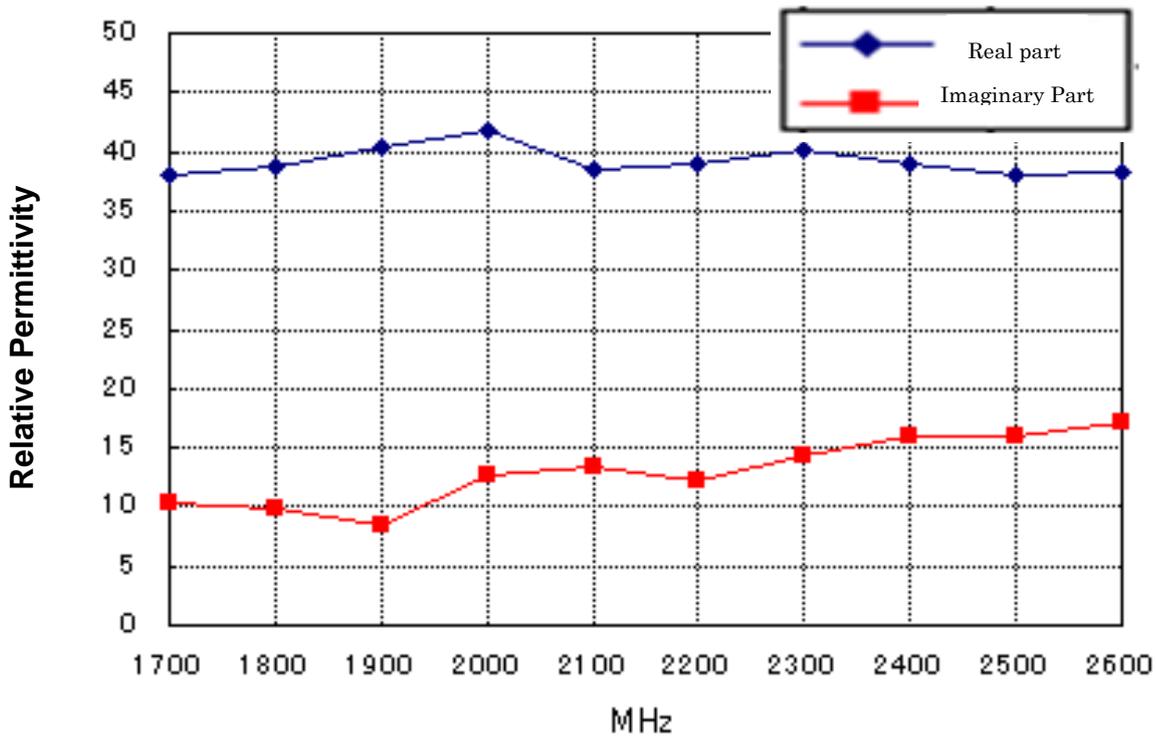


Fig.1 Characteristic of Phantom for 2GHz

Phantom will adjust the relative permittivity in accordance with the use frequency.

The relative permittivity to the set value will be $\pm 20\%$ of real part and within $\pm 30\%$ of imaginary part error.

We will adjust the relative permittivity to match the frequency band to be used,

Please consult the relative permittivity and the frequency band of your choice.

Above graph shows an example of adjusted relative permittivity as 2GHz phantom.

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