

Instructions and User Guide

Select Series: Vascular Access Ultrasound Training Models

BPO100, BPBV110, BPP120, BPNB150



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Overview

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Giving you the confidence only experience can offer™

Congratulations on the purchase of your Blue Phantom™ ultrasound model(s) for hands-on training. Every product we manufacture at Blue Phantom™ is specifically designed to be the most realistic and ultra-durable ultrasound simulation phantoms available anywhere. Our high standards for quality manufacturing and design guarantee that you receive only the absolute best.

About Blue Phantom™

Blue Phantom™ brings you the most realistic and durable hands-on ultrasound training models available anywhere. At Blue Phantom™ we know that learning to use ultrasound requires practice. You gain confidence and skill through experience. That is why we offer you the best ultrasound simulation training available.

Blue Phantom™ Warranty

Blue Phantom™ takes pride in its quality design and manufacturing standards. Our products are warranted to you by Blue Phantom™ for one year from the date of purchase against defects in workmanship and materials. During the warranty period, a defective part or product will be replaced either with a new or reconditioned part or product, depending on the availability at the time.

This warranty covers normal consumer usage and does not cover damage incurred through use not consistent with the product design. Failure that results from alteration, accident, misuse, vandalism, or neglect is not covered under this warranty. This warranty does not extend to any products that have been used in violation of written instructions.

Product Cautions

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Please read this instruction guide carefully. Do not begin using this model until you fully understand these safeguards and have read the user guide in its entirety.

Important Safeguards



1. Read Instructions – All safety and operating instructions should be read before the unit is operated.
2. While all parts of this user guide are important, the red flag that you see to the left denotes especially important content. Please familiarize yourself with all of the content prior to using your training model or damage to the model can occur.
3. This user guide includes instructions applicable to a variety of model configurations.
4. Retain Instructions – The safety and operating instructions should be retained for future reference.
5. Heed Warnings – All warnings in the operating instructions should be adhered to.
6. Follow Instructions – All operating and maintenance instructions should be followed.
7. Care must be taken to place the model in a position in which it will not fall off of the bed or surface, as this may cause injury.
8. Accessories – Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall causing serious injury to a child or adult, and serious injury to the unit.
9. **CAUTION:** Please use extreme care when using needles and sharp objects as to not accidentally injure yourself during training.



Product Information

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Blue Phantom™ Select Series: Vascular Access

- Branched 2-Vessel Block ([BPO100](#))
- Pediatric 4-Vessel Block ([BPP120](#))
- Branched 4-Vessel Block ([BPBV110](#))
- Regional Anesthesia Block ([BPNB150](#))

Included in this Package

- Blue Phantom™ Select Series: Vascular Access ultrasound training model
- Plastic storage container
- User Guide and Utilities CD

Additional Items Required for Training

- For optimal performance, please use 18-21 gauge needles (sharp and unbent) and associated catheter kits (please see *Chapter 4: Utilizing Your Training Model—Using Needles and Catheters* section on page 7 of this user guide)
- Ultrasound system with a high frequency linear array transducer
- Ultrasound gel

Optional Accessories for Your Training Model

- Blue Phantom™ Ultrasound Refill Solution ([BRS180-Red](#))

Introduction to Your Training Model

This model is intended as a platform for ultrasound hands-on technique training. The model is designed to be extremely realistic and its self healing design provides you with superb durability. In order to get the most out of your training platform, it is important that you properly care for your model.

Quick Facts about Your Training Model

- Ultra durable, self healing tissue
- Convex surface similar to a real patient
- Contains branched simulated blood vessels
- Regional Anesthesia Block ([BNPN150](#)) contains three simulated nerves
- Positive fluid flow when vessels are accessed
- Prefilled with Blue Phantom Ultrasound Refill Solution ([BRS180-Red](#))
- Easy to refill simulated vessels
- Made in USA



Utilizing Your Training Model

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Blue Phantom™ Select Series: Vascular Access

BPO100, BPBV110, BPP120, BPNB150

Anatomy of Your Training Model

1. Remove your training model from its shipping container and make sure that you have received all of the items listed in *Chapter 3: Product Information—Included in this Package* section on page 5 of this user guide. If you did not receive one of the listed items, or if you received the wrong items, please contact Blue Phantom™ Customer Support immediately:

Telephone: (425)881-8830

Email: customersupport@bluephantom.com

Web: www.bluephantom.com



Save the plastic container for storing your model.

2. Familiarize yourself with your training model.



Blue Phantom™ ultrasound training models are constructed using our patented simulated ultrasound tissue and mimics the imaging characteristics to that of human tissue. Care must be taken to not place the model on rough surfaces as the model can take on the characteristics of that surface. Do not place objects under the model as the tissue is soft and will conform to the shape of the object.

Using Your Training Model

1. Remove your Blue Phantom™ from its packaging and place on a clean, hard, flat surface.
2. Place ultrasound gel on the model or on the ultrasound transducer in adequate quantities so that the probe slides effortlessly across the surface of the model. Add more gel as necessary.
3. Adjust the ultrasound system controls per the manufacturer's instructions, increasing and decreasing the depth and gain controls until the desired image is obtained.



If you intend on guiding sharp objects into the phantom, never place the model in a location where you might accidentally puncture yourself.

Using Needles and Catheters



1. For best performance, we recommend that you utilize a new, sharp, unbent 18-21 gauge needle and similarly sized catheter kits when accessing the structures in the model.
2. Do not use any needle larger than 18 gauge or permanent damage to your model may occur.
3. Smaller bore needles (>21 gauge) can bend during use and damage your model simulated tissue.
4. Aggressive repositioning of needles rather than removing and repositioning can cause stubborn or permanent needle tracks due to the needle tip dragging through the simulated tissue.
5. Dull needles may also cause permanent damage to the tissue. It is important to replace needles approximately every ten cannulations.

Accessing Simulated Blood Vessels

1. The Blue Phantom™ Ultrasound Refill Solution contained within the model's vessels is specially formulated to allow for optimal performance.



WARNING: Using fluid other than that supplied by Blue Phantom™ will void your warranty. Using other fluid will cause changes in the imaging qualities of the blood vessels, reduce the ability to thread catheters, and cause fungal or bacterial growth within the vessels.

2. Users can remove fluid after the vessels have been properly cannulated to confirm needle placement. Please note that any fluid withdrawn from the vessel will require refilling.



Your training model comes pre-filled with Blue Phantom™ Ultrasound Refill Solution. If you suspect that your model is low on fluid, please refer to *Chapter 4: Utilizing Your Training Model—Maintaining Optimal Fluid Levels* section on page 8 of this user guide.

Maintaining Optimal Fluid Level

It is important to maintain a good fluid level within the simulated blood vessels. Through normal repeated use, users can experience a reduction in the amount of fluid resulting in small amounts of air within the vessels. This is directly dependent upon the amount of fluid removed during simulation training.



The simplest way to maintain optimal fluid level in the vessels is to have users inject the accessed fluid back into the model after accessing the vessel.

Please see below to determine if your model requires refilling and for complete refilling directions.



CAUTION: Use refill solution only as directed. Not intended for human consumption. If accidental consumption occurs, drink a glass of water and consult a physician. May irritate eyes; flush well with water. May contain pigments that can stain clothing; wash immediately with cold soapy water. Keep out of reach of children.

How to Determine if Vessels Require Refilling

Choose one of the following methods to determine if the blood vessels require refilling:

1. **Ultrasound Method**

An optimally filled vessel will be identified by the presence of a black echo-free lumen (refer to *Image A*). A low fluid environment is identified by the inability to visualize the vessels during normal imaging situations (refer to *Image B*). This is due to the presence of air within the vessels, which will reflect all of the sound energy.

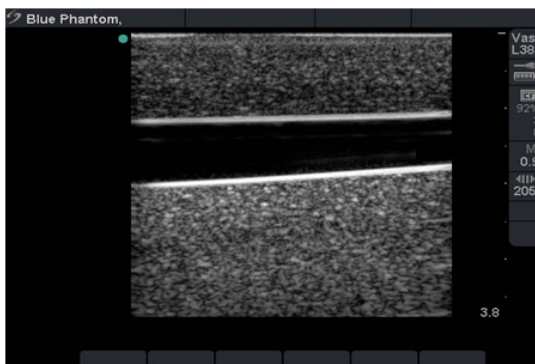


Image A

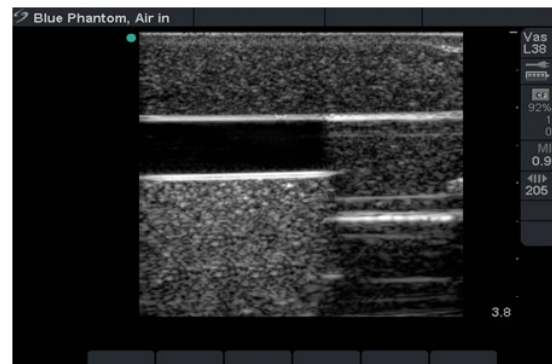


Image B

2. **Non-Imaging Method**

When the model is held up to a bright light, the internal structures should be visible to the eye. Air in the vessels can be seen as fluid voids within the vessels.

Refilling the Simulated Blood Vessels

Refilling your Blue Phantom™ Select Series ultrasound training model is a simple process that will take approximately 15 minutes. Please follow the directions below.

Items Required

- Empty syringe with sharp and unbent 18-21 gauge needle
- Blue Phantom™ Ultrasound Refill Solution ([BRS180-Red](#))



If you are uncomfortable refilling the vessel for any reason, contact Blue Phantom™ and we can refill the phantom for a nominal fee.

Directions

1. Identify the dimple access ports on your Blue Phantom™ Select Series training model. These are identified as the small dimples at the beginning of each blood vessel within the block model (refer to *Image C* and *Image D*).

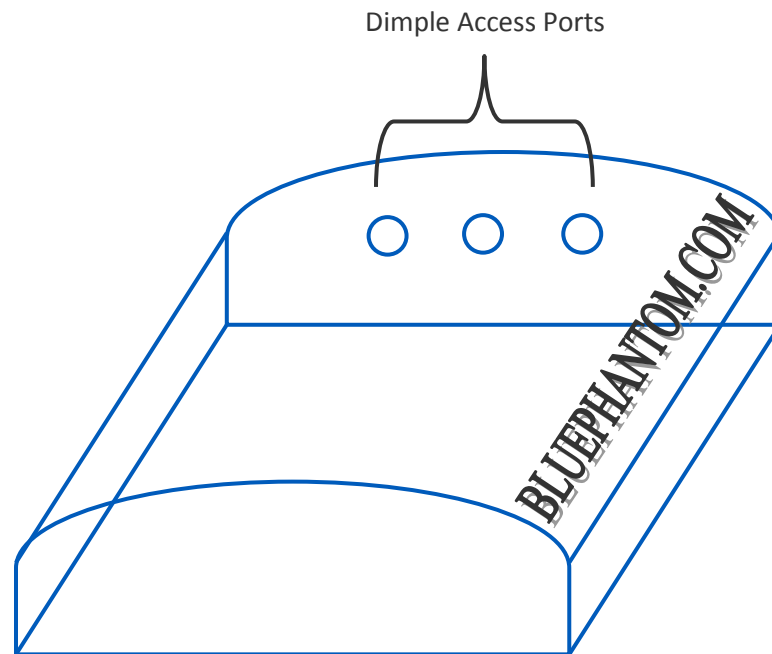


Image C

(continued on next page)

Refilling the Simulated Blood Vessels (*continued*)

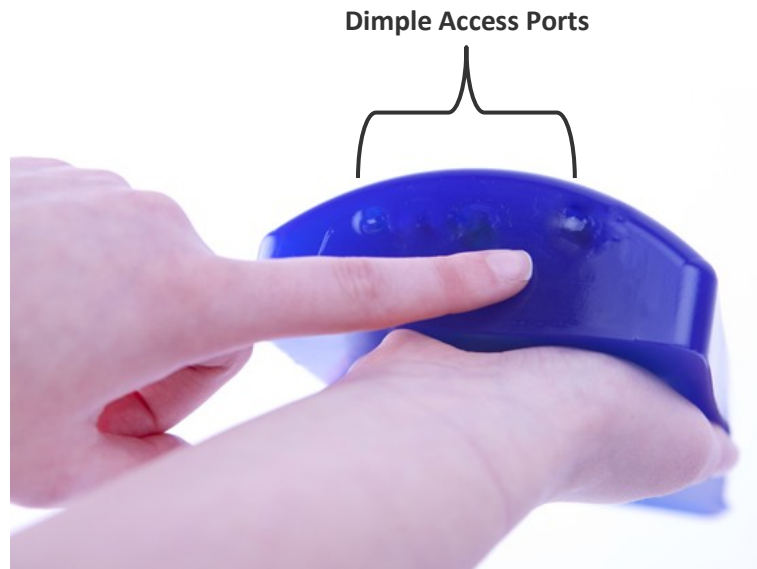


Image D

2. Position the phantom vertically with the dimple access ports pointing upward.
3. With the phantom positioned upright, gently tap the model for 60 seconds. This will allow the air within the vessel to migrate to the top of the vessel.
4. Carefully fill the syringe with Blue Phantom™ Ultrasound Refill Solution ([BRS180-Red](#)) and attach a sharp and unbent 18-21 gauge needle.
5. With the block model in the upright position, carefully insert the needle into the end of the intended dimple access port .
6. SLOWLY infuse the refill solution into the vessel in 5 ml increments until it is full. Be sure to purge air after each successive 5ml by pulling back on the plunger. Filling the vessel SLOWLY prevents air bubbles from being introduced into the vessel. You will observe the size of the simulated vessel expand on ultrasound as fluid is introduced.
7. Withdraw any air that has accumulated at the top of the simulated vessel.



Overfilling the vessels can cause previously cannulated sites to leak small amounts of fluid. You will know the vessels are too full when beads of ultrasound refill solution appear at the site of needle insertion points. If you notice this occurring, simply remove a small amount of fluid until the vessel has retained its original size.

Caring for Your Training Model

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Proper Use and Care

Proper care of your training model will result in tremendous utility. Please heed all instructions contained in this user guide when using your model.

Cleaning Your Training Model

After each use, your training model can be easily cleaned using mild soapy water. For best results, mix one part liquid soap with one part tap water. Gently rinse the model with the soapy water to remove any accumulated debris.

Use a clean, soft, lint-free cloth to dry after cleaning. Dry the model using a dabbing motion, rather than wiping or rubbing the model.



Wiping or rubbing the surface aggressively can result in scuffing the simulated tissue.

Storing Your Model

The model can be stored at room temperature either in the provided plastic storage container or in the open.



Do not store the model in contact with other objects. This can cause the simulated tissue to become deformed.

Blue Phantom™ Customer Support

Blue Phantom™ is committed to providing you with superb products and uncompromising customer support. Should you require assistance feel free to contact us directly at:

Telephone: (425)881-8830

Email: customersupport@bluephantom.com

Web: www.bluephantom.com



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