

PH-6B

Dynamic CT Cardiac Phantom

Instruction Manual

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DOs and DON'Ts

DOs

● Operate the system under the designated circumstances

Power input: AC100V~230V plus or minus 10%, 50Hz/60Hz

Temperature range: between 0 degrees C and 40 degrees C (no congelation)

Relative humidity; between 0%to 80% (no condensation)

*Connecting to power source outside of the designated range may lead to fire.

● Safe disposition

To avoid short circuit, do not run the simulator set above a power receptacle.

● Handle the power plug and cord observing following precautions

1. Clean the head of the plug periodically.
2. Plug in the plug to the outlet firmly to the end.
3. Always hold the plug when unplugging. Do not pull the cable.
4. Do not force to bend, twist the cable and avoid scratching or cutting on it.

Failing to follow the above precautions can result in damage in the plug and the cable, constituting risk of fire or shock.

● When the electric parts get warm or produce smoke, immediately turn off the power and unplug from the power source

Risk of fire. Contact your distributor or the manufacturer for repair.

● Handle with care

The materials for the models are special compositions of soft resin.

Please handle them with utmost care at all times.

● Storage

Store the simulator at room temperature, away from heat, moisture and direct sunlight.

Storage under the temperature above 50 degrees C may reduce the performance quality of the simulator.

DON'Ts

● Do not disassemble or open electric or precision components

Do not open up or disassemble the housing for electric parts or precision components.

Refrain from opening up any lids, caps or covers for such area, and never run the system while any of such covers are open.

*Never disassembling the electric components, power plug and cable as it may create a risk of fire, shock or injury. Contact your distributor or the manufacturer for repair.

● Never wipe the product and components with thinner or organic solvent

● Ink marks on the soft surface won't be removable

Don't mark on the product and components with pen or leave any printed materials in contact with their surface.

● Do not give shocks

The electric components are precision instruments. Strong shocks or continuous vibration may cause breakages of its internal structure.

● Do not run the system continuously over 2 hours

Take at least 30 minutes shutdown, turning off the power, every 2 hours.

● Do not wet the electric components

Do not pour or spill water or liquid detergent over the electric components, power cable and power plug. Running the system while the electric components are wet may create a shock hazard or a risk of fire.

● Do not handle the power plug with wet hands

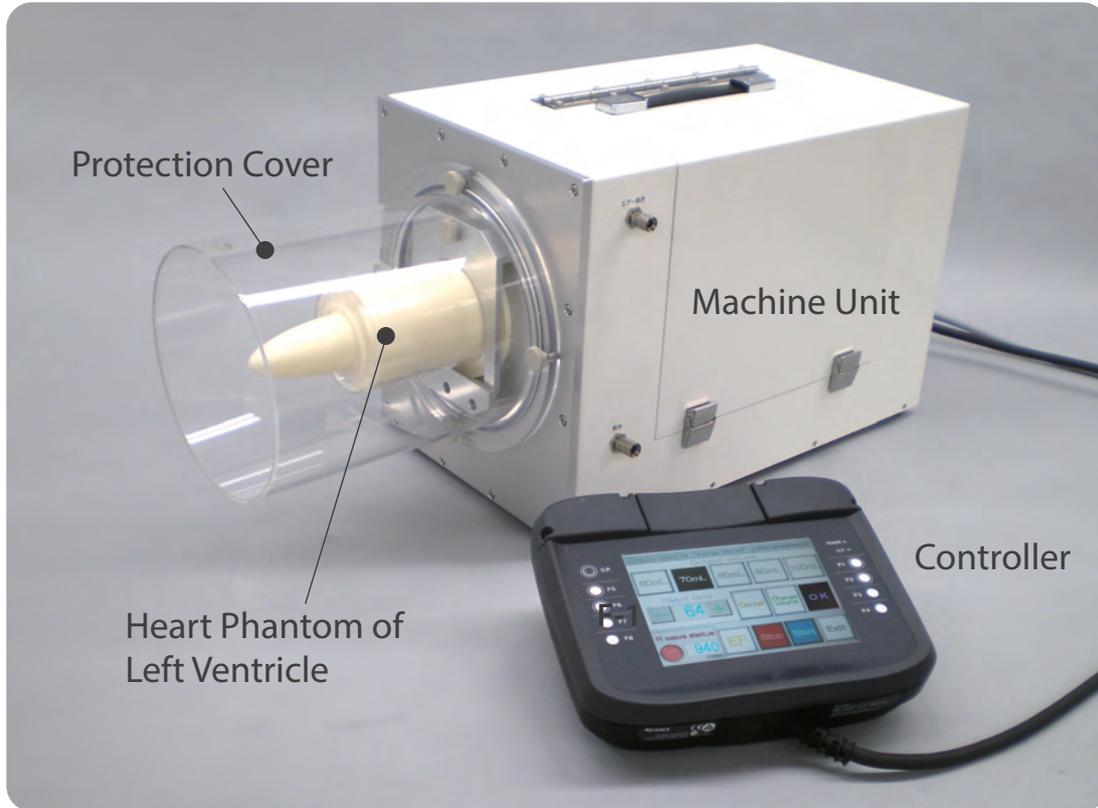
Risk of shock.

● No fire

Do not put the product close to fire. It may lead to discoloration or deformation of the product as well as short circuit, creating a risk of fire.

Set Includes

Before your first use, please ensure that you have all components listed below.



Set Includes	Machine unit	1	Simulated Coronary Arteries
	Heart Phnatom	3	Anatomical Type
	Protective Cover	1	Stehosis Type
	Ring Holder	5	Normal Type
			Storage Case

Specs

- 1) Heart Rate:30-120/min
- 2) Ejection volume:60-100mL
- 3) ESV:approx.47.5m L

Materials

Heart Phantom: Polyurethane with Hydroxyapatite (HU value:approx.40)
 Simulated arteries: polyurethane with Hydroxyapatite

- The phantom consists of a machine unit, a heart phantom, a protective cover and a controller
- The heart phantom pulsates by the incorporated pump.
- The phantom generate pulses to simulate ECG gating (1mV, intervals: 60m/sec)
- Simulated coronary arteries can be attached to the heart phantom.

Machine unit and Heart Phantom



Machine unit

ECG leads can be attached to the plates at the rear end of the machine unit. From the left R, L and LF/N respectively. The pulses are fixed at 1mV, 60m/sec.



Inside of machine unit

The lid is to be kept closed except for the time of drainage after use.



Heart Phantom

How to attach simulated artery

First put the ring holder on the heart phantom, and glue them at two points by the instant glue. Interleave the simulated artery between the heart phantom and ring holder as like a photo.

Set-up 1

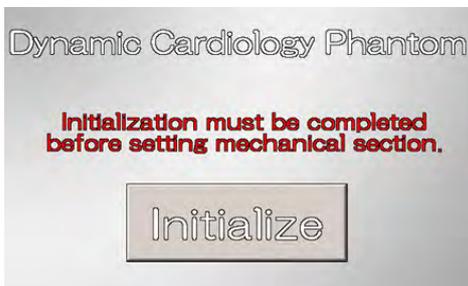


1. Power-on

The power switch is found at the rear end of the machine unit. Turn on the switch.



The port for fuse is found below the power switch.



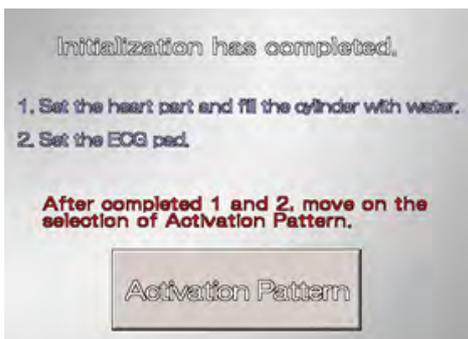
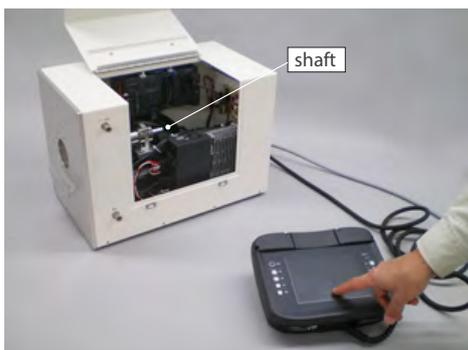
2. Initialization

Press the "initialize" button on the screen of the controller.



Initializing...

At the same time the shaft in the machine unit returns to its default position.



Initialization complete.

The screen changes automatically.

Set-up 2



3. Assembly

First, put the supporting cover over the heart phantom.



Then put them together over the opening on the front wall of the machine unit.



And then, put the ring holder around the base of the phantom and fix it to the machine unit with a screw.

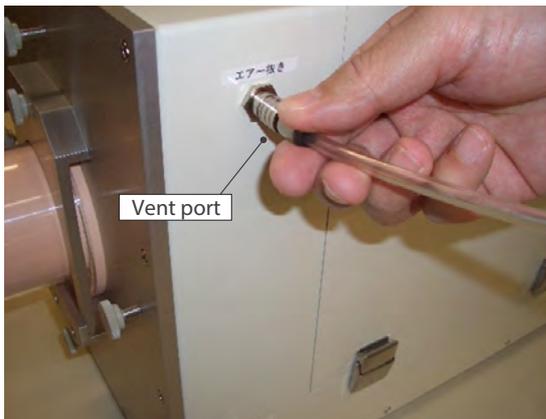


.....
Do not put screws to the phantom unit when the heart phantom is NOT in place.
This may cause damage internal structures of the machine.

Set-up 3

4. Fill the heart phantom with water

Connect the tubes to the two ports on the side wall on the machine unit. Ensure open the cocks at the far end of the tubes.



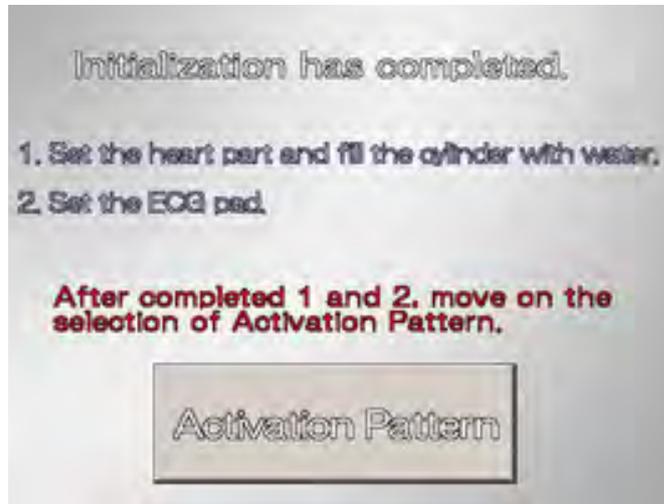
Connect the water-filled syringe to the tube from the irrigation/drain port (lower port). Fill the water until you see water flow out from the vent port.



Attach the protection cover and fix it to the wall of the machine unit with four screws.



Operation 1

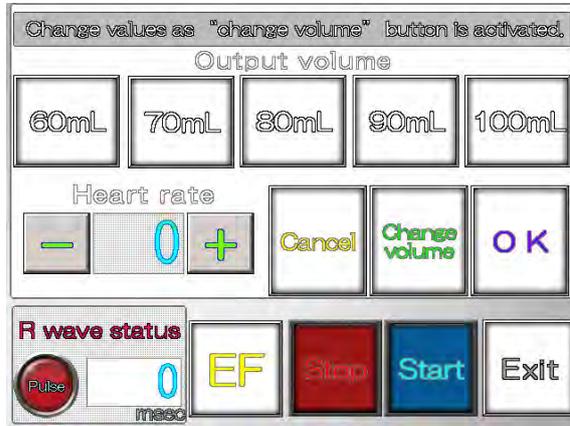


Attach the ECG leads to the panels at the rear wall of the machine unit. Then, press the "activation pattern" button on the screen.



Choose either "output volume" or "EF value" and press the button.

Operation 2



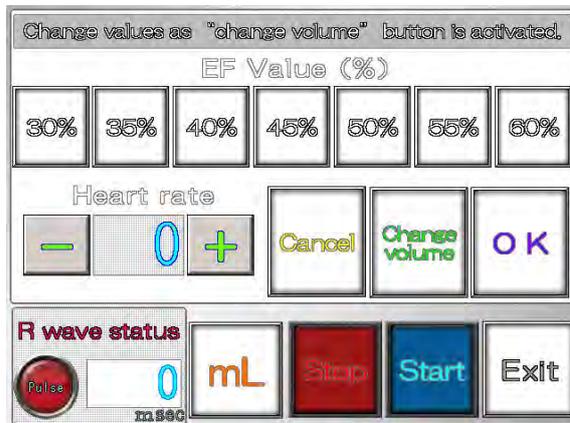
Operation: "output volume" mode

Choose one of the volume buttons and confirm it by pressing OK.
Change the heart rate with -/+ button and confirm with OK button.

Then press "start" to start pulsation.

The volume and the heart rate can be changed by pressing "change value" button and repeat the steps above.

The pulse button at the lower left corner blinks with generation of the pulse.
The motion of the phantom stops by pressing "stop" button.
To move to EF value mode, press "EF" button.
To close the all session, press "exit" button.



Operation "EF value" mode

Choose one of the volume buttons and confirm it by pressing OK.
Change the heart rate with -/+ button and confirm with OK button.

Then press "start" to start pulsation.

The volume and the heart rate can be changed by pressing "change value" button and repeat the steps above.

EF value can be set from 30% to 60% with 5% steps.
Heart rate -EF value 30-45%
can be set at 30-120/min.
-EF value 50-55%
can be set at 30-110/min.
-EF value 60%
can be set at 30-100/min

The volume and the heart rate can be changed by pressing "change value" button and repeat the steps above.

The pulse button at the lower left corner blinks with generation of the pulse.

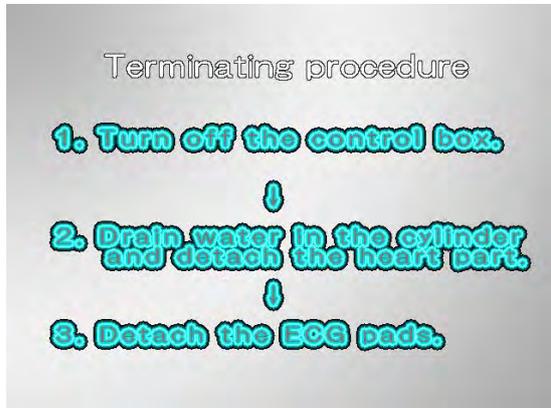
The motion of the phantom stops by pressing "stop" button.

To move to EF value mode, press "EF" button.

To close the all session, press "exit" button.

After the session

After the session

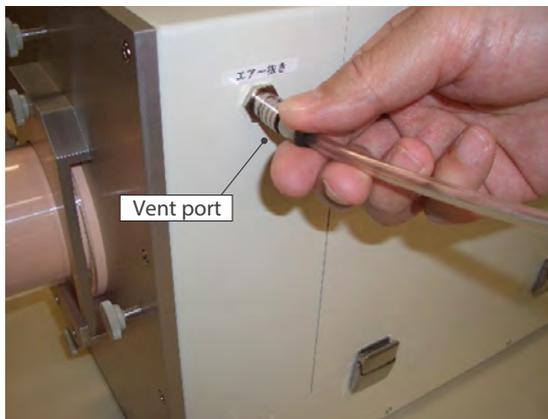


- 1) Press "exit" button.
- 2) Turn off the power switch
- 3) Remove the ECG leads.

- 4) Discharge the water.

Connect the tubes to the two ports on the side wall of machine unit. (Ensure close the cocks at the tubes.) Set up the container underneath to store drainage.

- open the cocks of both tubes.
- water flow out through the tube.
- disconnect the tubes.



Please note

- Ensure to discharge all water from the system before storage.
- The manufacturer cannot be held liable for damages or accidents caused by use not conforming this instruction manual.

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