



Caution

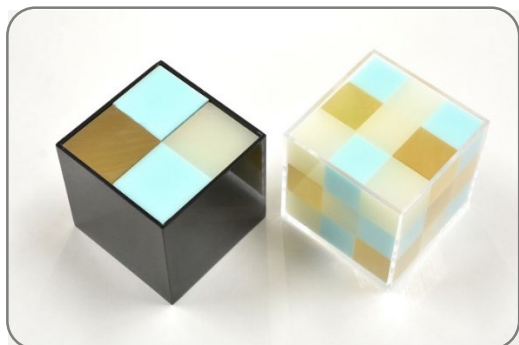
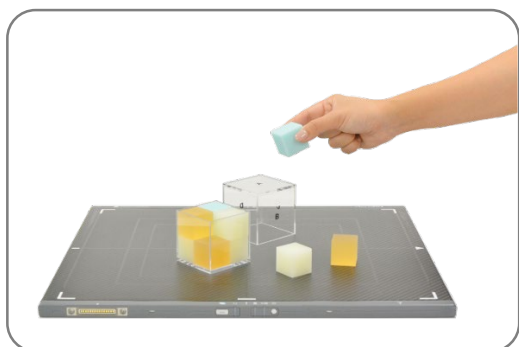
Do not mark on the model and other components with pen nor leave printed materials contacted on surface.
Ink marks on the models cannot be removed

PH-78

Radiology Cube Phantom XCUBEFAN

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Instruction
Manual



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Manufacturer's Note

PH-78 Radiology Cube Phantom XCUBEFAN is designed for beginners in radiology to facilitate understanding of characteristics of radiology imaging.

Please read

This phantom has been developed for the training of healthcare professionals only. Any other use, or any use not in accordance with the enclosed instructions, is strongly discouraged. The manufacturer cannot be held responsible for any accident or damage resulting from such use. Please use this model carefully and refrain from subjecting to any unnecessary stress or wear. Should you have any questions on this simulator, please feel free to contact our distributor in your area or KYOTO KAGAKU at any time. (Our contact address is on the back cover of this manual)

Features

- Three types of phantom cubes, with respective radiology absorption rate for each type, are to be three dimensionally arranged in the cuticular container. Trainees are to radiograph the box(es) with different angles and then to analyze the acquired images to reconstruct the arrangement of the cubes.
- Two sizes of phantom cubes are included to set different levels of challenges.

Training tips

XCUBEFAN aims to cultivate creativity, ability of reasoning and mind of team players in training of radiographers. The discussion in the team over the images acquired using the phantom is practice of active learning. You will find a training example of "Black Box Competition" on page 4-5 of this manual, though possibility of the use of the phantom is unlimited. Create your own training plans and scenarios for exiting learning experience.

Dos and Don'ts

● Handle with care.

Handle the phantom and the components with care.

Do not drop them or let hard or sharp object drop on the phantom. Avoid organic solvents

● For cleaning, use water or mild detergent.

For cleaning, wipe the phantom with wet soft close, using water or mild detergent. Never use organic solvent such as paint thinner.

● Avoid high temperature and high humidity for storage.

When not in use store the phantom avoiding high temperature, high humidity and direct sunlight.

Exposure to such elements can lead to deterioration or deformation of the materials.

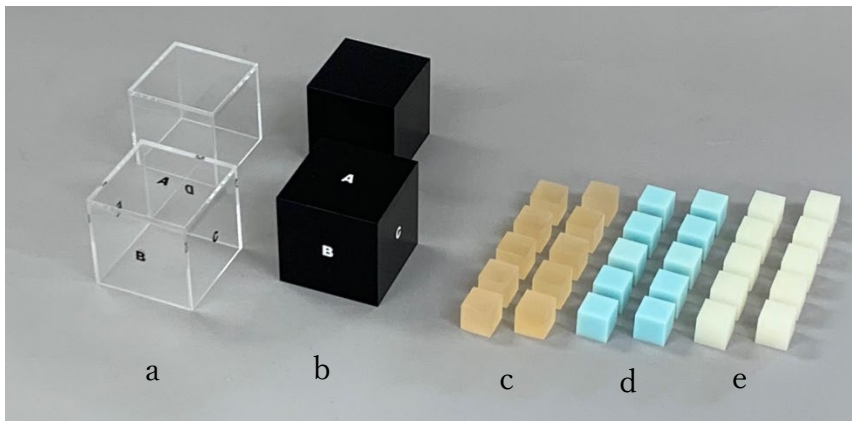
● Do not write or mark the phantom with pens.

Do not let ink from pens, newspapers, this manual or other sources contact with the phantom, as such marks cannot be cleaned off.

Set Includes

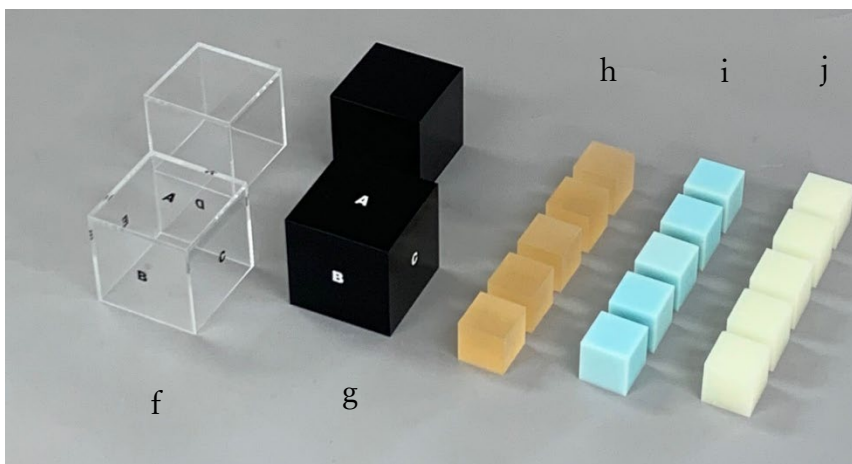
Before you start, ensure that you have all components listed below.

20mm Cube Set



- a. XCUBEFAN CASE (Clear) 1
- b. XCUBEFANCASE(Black) 1
- c. orange cube(20mm) 10
- d. blue cube(20mm) 10
- e. yellow cube(20mm) 10

30mm Cube Set



- f. XCUBEFAN CASE (Clear) 1
- g. XCUBEFANCASE(Black) 1
- h. orange cube(30mm) 5
- i. blue cube(30mm) 5
- j. yellow cube(30mm) 5

Dimensions and Materials

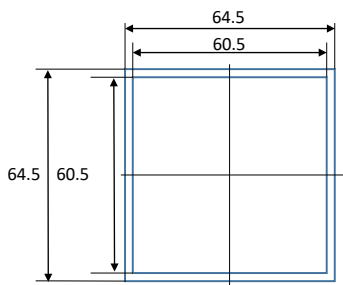
Dimensions

20mm Cube : $20 \times 20 \times 20$ mm each

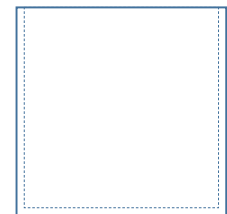
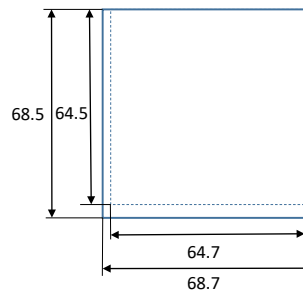
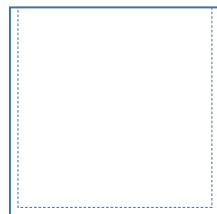
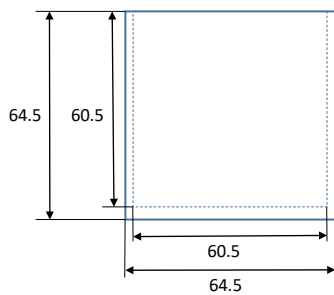
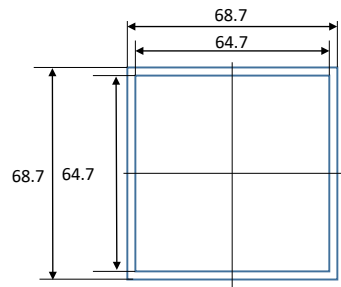
30mm Cube : $30 \times 30 \times 30$ mm each

XCUBEFAN Case (Clear, Black)

Main Container



Lid



Materials

HU	Density	Materials	Color
約 0	1.06	Polyurethane	Orange
約 500	1.4	Epoxy Resin	Blue
約 1000	1.21	Epoxy Resin	Yellow

Orientation

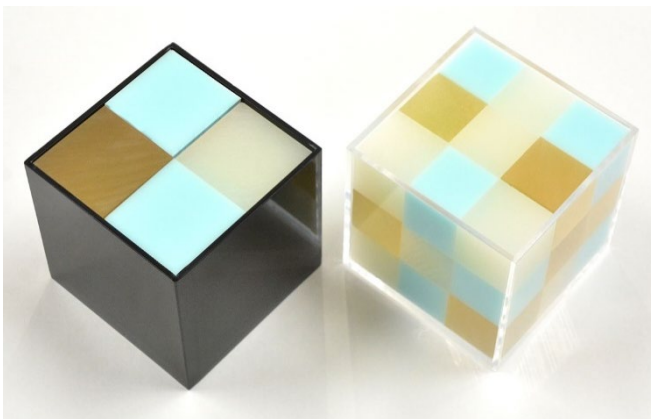
- Share goals and time schedule with participants
- Orientation about X CUBEFAN
- Group participants into teams of 3 people each

Items to prepare

- Radiology Cube Phantom XCUBEFAN
- X-ray system
- Positioning pillows
- Light box

Step 1: Arrangement of Cubes

- Arrange the cubes into the XCUBEFAN case
 - Record arrangement of cubes to acquire the images.
- 1) Arrange the cubes in the case to set maximum challenges for other teams to interpret.
 - *The clear type case is to be used as tools for discussion and presentation.
 - *The black type case is to be used for Step 2, imaging the phantom.
 - 2) Once the final arrangement is set in the black type case, put the lid and exchanged boxes with the opponent team(s).



Step2: Selecting parameters, acquiring images

■ Selecting parameters (example: CR)

- Basic setting: SID100cm/100KV/100mA/0.02s
- Image processing: A gradation(linear gradation)/Sensitivity100/Latitude 2.0
- Number of shooting : within nine times (recommended)

■ Positioning the phantom

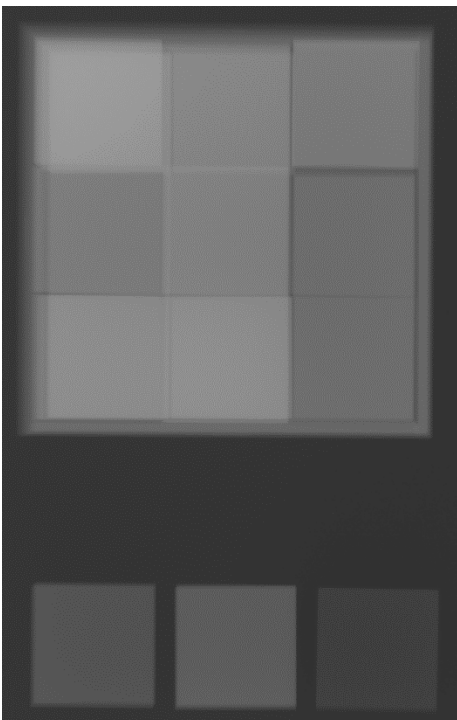
■ Acquire images

Set the maximum numbers of shooting for the competition.

Recommendation from the manufacturer is maximum nine shooting per team. Set appropriate maximum possible numbers for shooting according to the levels of trainees, to promote the skills required to minimize the number of shooting and thus to reduce examination time and radiation exposure to patients.

Step3: Analyzing the acquired images

- Analyze the acquired images using light box and densitometer
- Prepare the answer
- Calculate accuracy rate of each team and recognize the winner
- Group discussion





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For inquiries and service, please contact your distributor or KYOTO KAGAKU CO., LTD.

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No part of this instruction manual may be reproduced or transmitted in any form without permission from the manufacturer. Please contact manufacturer for extra copies of this manual which may contain important updates and revisions.

Please contact manufacturer with any discrepancies in this manual or product feedback. Your cooperation is greatly appreciated.

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