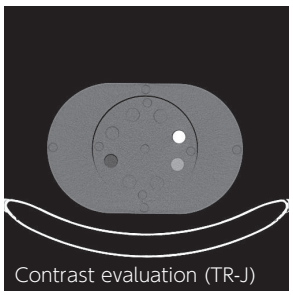
PH-75B | 41941-100 (TR-I) PH-75A | 41941-000 (TR-J)

Multi Energy CT Quality Assurance Phantom

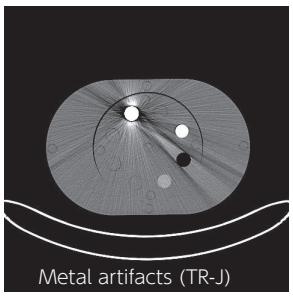
MECT CT

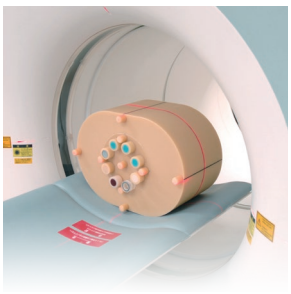
Water Equivalent Material, various inserts and empty bottles enable to verify the appropriate Multi-Energy CT settings

Co-developed with:
Katsuhiro Ichikawa, Ph.D.,
Institute of Medical,
Pharmaceutical and Health Sciences,
Kanazawa University


Contrast evaluation (TR-J)

SHOW MORE!


Metal artifacts (TR-J)



FEATURES

- Phantom using innovative Water Equivalent Material
- Empty bottles enable to put various items and check how they react to Multi Energy CT
- Save time and efforts to produce custom-made water phantoms
- Two different sizes of body. (TR-I, TR-J)

APPLICATIONS

Study for
- ME-CT image analysis protocol
- Metal artifact reduction
- Reduction of contrast media

EVALUATION PARAMETERS

- Uniformity
- Signal-to-noise ratio (SNR)
- Image contrast
- CT dose index (CTDI)

Inserts

Color	Name	Size	Qty
Silver	Water Equivalent Material Inserts	ϕ20mm	8
Red	Titanium Insert	ϕ12mm	1
Blue	Soft tissue (equivalent to liver)	Φ20mm	1
Blue	Iodine concentration 4mgI/mL	ϕ20mm	1
Blue	Iodine concentration 8mgI/mL	ϕ20mm	1
Transparent	Iodine concentration 12mgI/mL	ϕ20mm	1
	Water container	ϕ20mm	1
	Empty bottle with spacer *for experiment		20

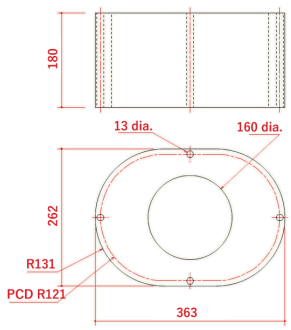
DESCRIPTIONS

SET INCLUDES

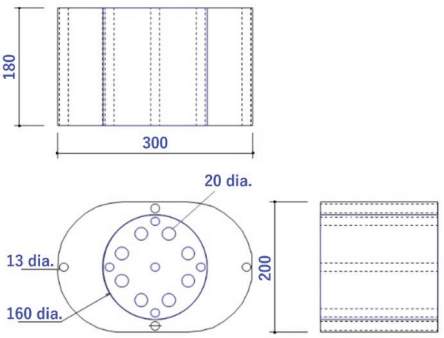
1	truck phantom	1	soft tissue insert
1	internal cylindrical phantom	1	water container inserts
9	Filling inserts for dosimeter holes	20	empty bottles
8	WEM inserts	8	spacers for empty bottles
3	Iodine inserts (4, 8, 12mgI/mL)		manual
1	titanium insert		

SPECIFICATIONS

Phantom size (TR-I):



Phantom size (TR-J):



Kyoto Kagaku New Lineup
Multi-Energy CT Phantoms

For Quality Assurance and Research

OVERVIEW

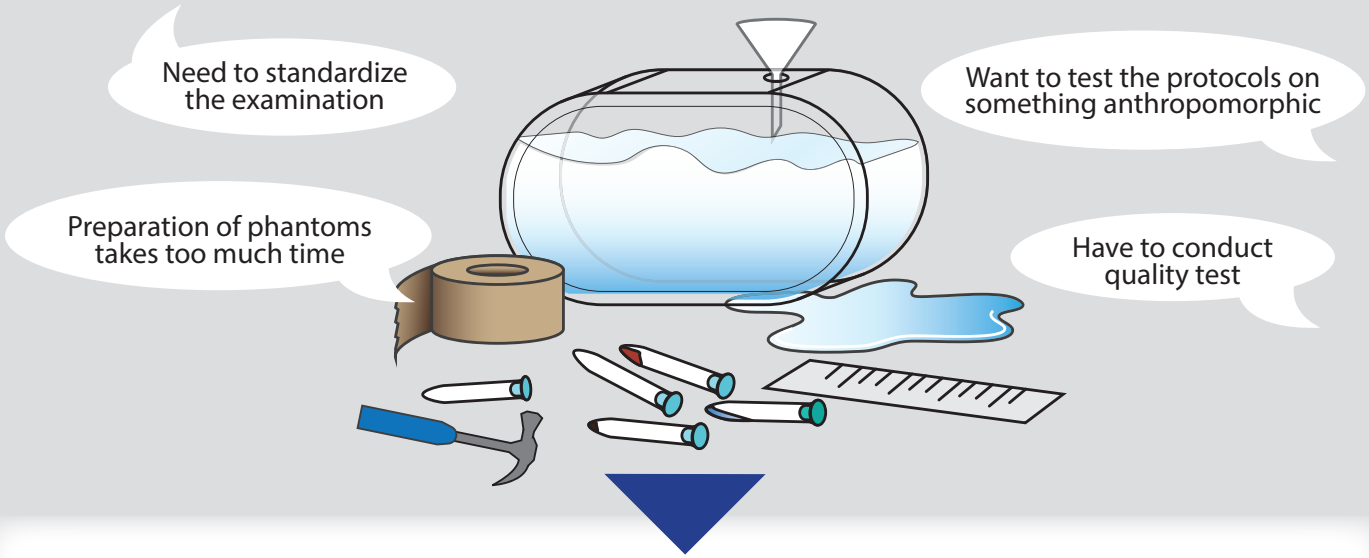
Multi-Energy CT (MECT) or Dual Energy CT (DECT) is a new frontier of rapidly advancing medical imaging, and now entering clinical practices in hospitals.
The technology enables material differentiation, elemental decomposition and material quantification.
Such features are expected to bring us better diagnosis, improved image quality, reduction of radiation exposure, reduction of contrast agent volume and opens possibility of functional imaging.

Meanwhile, further studies are awaited in various field such as quality management of CT equipment, verification of protocols, expansion of clinical application, to derive the maximum benefits from the technology.

Kyoto Kagaku supports researchers and clinicians with up-to-date innovative phantoms.

BACKGROUND

In many MECT/DECT studies, water phantoms have been used. However, using real water can impose considerable work in preparation and handling. At the same time, using acrylic containers limits the design of phantoms.



New lineup of Kyoto Kagaku Multi-Energy CT phantoms assists you promptly, saving your time and energy

PRODUCT LINEUP

Phantoms can be made in complex and detailed shapes including anatomical structures

Angiographic CT Head Phantom ACS
Head with MECT compatible arteries

CT Abdomen Phantom
Abdomen with MECT compatible vessels and liver

Sample product
Gout Foot Phantom

Iodine concentrations can be custom-ordered Contact us!

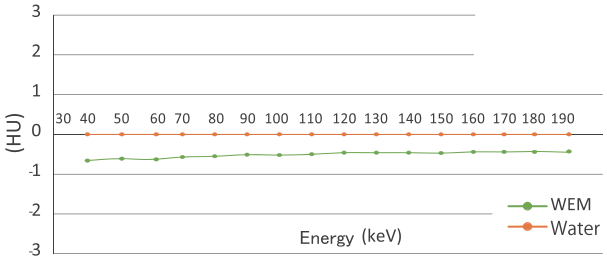
Multi Energy CT Quality Assurance Phantom
Phantom for quality assurance.
A variety of research samples can be inserted using small containers.

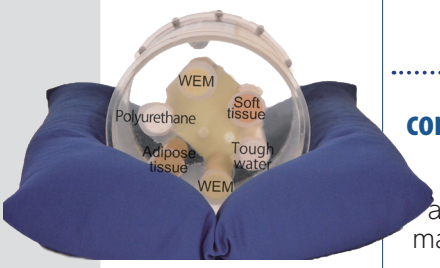
Vital factor for Multi-Energy-CT Phantom "Water Equivalent Material"

About Water Equivalent Material (WEM)

WEM has high equivalency to water in diagnostic energy ranges(40-190KeV)

Co-developed with; Professor Ichikawa Katsuhiro,
Faculty of Health Sciences, Institute of Medical,
Pharmaceutical and Health Sciences,
Kanazawa University, Japan





Experiment

Place the material inserts on water tank

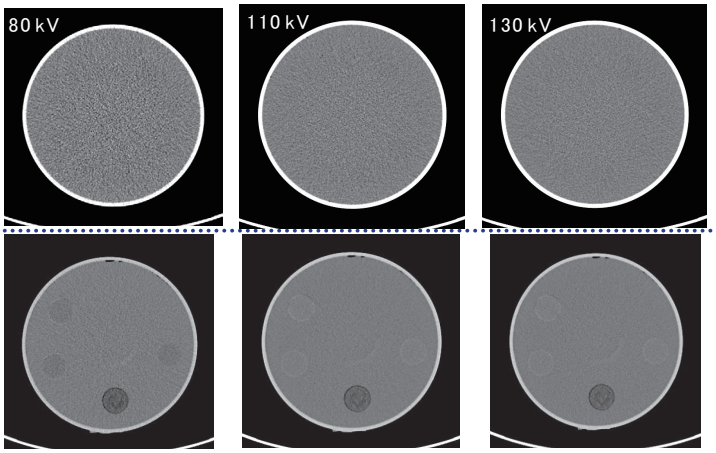
Rods are not shown in the CT images!!

WEM

Nine rods of WEM are "invisible" under CT

conventional materials

Two rods of WEM and for conventional materials for phantoms

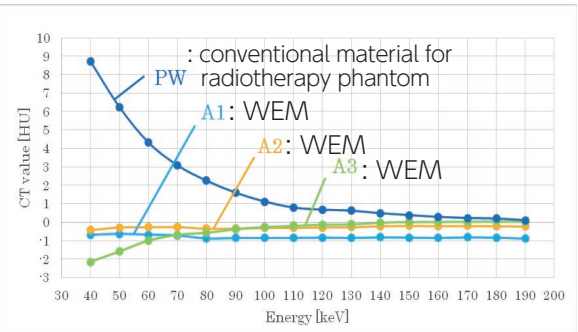


Supports iodine quantification and material-decomposition

Unlike conventional "water substitute" materials the Water Equivalent Material maintain water equivalency under low energy range. This feature support studies that involve iodine quantification.

Save time and trouble for study and expand possibilities

Save time, costs and efforts to design and produce custom acrylic water phantoms.
Unlike water phantoms, phantoms with solid materials reduce the troublesome process to change water and inside rods.



Ryota Matsui, Ishikawa Katsuhiro, Hiroki Kawashima, "Development of highly precise Water Equivalent phantom for CT machine"
Ichikawa Lab, Kanazawa Univ.
http://ichiken.w3.kanazawa-u.ac.jp/img/file2.pdf
(cited 2019-05-20)

CONCLUSION

1. Kyoto Kagaku Multi-Energy CT phantoms may save time and cost of preparing custom made phantoms for the researchers.

2. Water Equivalent Material (WEM) enable to create phantoms with innovative designs while ensuring credibility of water phantoms.