

APPLICATION

The PIQE reconstruction system is installed in a CT system to support PIQE (Precise IQ Engine) reconstruction and image display.
The applicable CT systems are shown below.

CSSR-001A/2

SYSTEM MODEL		MANDATORY OPTION
Aquilion ONE	TSX-308A/1-3	CCRS-003A*
	TSX-308A/4-6	CCRS-003C*
	TSX-306A/I-N	

CSSR-001A/3**

SYSTEM MODEL		MANDATORY OPTION
Aquilion Serve SP	TSX-307B/1, /2	-

*: Reconstruction processing unit (CCRS-003A or CCRS-003C)
**: System software version must be V2.0 or later.
Note: Some systems may not be available in your country or region.
Please check with your sales representative.

FEATURES

PIQE Reconstruction System*1

Introducing super resolution Deep Learning Reconstruction technology "PIQE" designed to fully utilize the maximum resolution of the detector, providing super resolution 1024 matrix images for Cardiac, Lung*2 and Body examinations without compromising on image noise or dose. It's time to embrace the benefits of volumetric cardiac CTA with improved spatial resolution and a new level of AI-enhanced*3 performance.

COMPOSITION

- Media.....1 set
- Manuals.....1 set

PERFORMANCE SPECIFICATIONS

The specifications, functions, and restrictions when this system is used are described below. Installation of this system does not result in any changes in the basic specifications of the CT system. (For the specifications of the CT system, refer to the product data for the CT system.)

Scan parameters

- Scan regions
 - Abdomen and pelvis
 - Chest*4
 - Cardiac
- Scan types
 - Volume scan
 - Dynamic volume scan
 - Helical scan

Note: Applicable to tilt volume scan but not applicable to tilt W-volume scan and helical scan.

- Rotation time
 - TSX-308A: 0.24*5, 0.275*5, 0.30*5, 0.32*5, 0.35, 0.375*6, 0.4, 0.45*6, 0.5, 0.6, 0.75, 1, 1.5 s
 - TSX-306A: 0.275*7, 0.30*7, 0.32*7, 0.35, 0.375*6, 0.4, 0.45*6, 0.5, 0.6, 0.75, 1, 1.5 s
 - TSX-307B: 0.35, 0.375, 0.4, 0.45, 0.5, 0.6, 0.75, 1, 1.5 s
- Slice thickness: 0.5 mm

*1: The PIQE Reconstruction System is not provided with a self-learning function that allows the CT system to modify its own programs. Therefore, training of the PIQE algorithm is not performed at the end-user's site.
*2: Based upon NEQ measurements. Data available upon request.
*3: The term Artificial Intelligence (AI) is defined here as technology using Deep Learning methods.
*4: System software version must be V1.5 SP0100 or later.
*5: Fast scan and X-ray power up kit is required for TSX-308A/2, /3, /5, /6.
*6: Not applicable when Fast scan and X-ray power up kit is installed.
*7: Fast scan and X-ray power up kit is required for TSX-306A/J, /K, /M, /N.

Acquisition

TSX-308A and TSX-306A

Volume scan, Dynamic volume scan

() indicates the scan range

0.5 mm slice: 320 (160 mm)^{*1}, 280 (140 mm)^{*1},
260 (130 mm)^{*1}, 256 (128 mm)^{*1},
240 (120 mm)^{*1}, 200 (100 mm)^{*1},
160 (80 mm), 120 (60 mm),
80 (40 mm), 40 (20 mm) rows

Helical scan

0.5 mm slice: 160, 128, 100, 80, 64, 40, 20 rows

TSX-307B

Volume scan, Dynamic volume scan

() indicates the scan range

0.5 mm slice: 80 (40 mm)^{*2}, 40 (20 mm) rows

Helical scan

0.5 mm slice: 80^{*2}, 40, 20 rows

ECG-gated scan^{*3}

Full reconstruction

Half reconstruction

Segmental reconstruction

Respiratory-gated scan^{*3}

Note: Not applicable to dynamic volume scan

Reconstruction

Algorithm: PIQE

Applicable anatomical regions

– BODY (For abdomen and pelvis)

– LUNG (For chest)^{*4}

– CARDIAC (For cardiac)

Intensity: L1 / L2 / L3

Reconstruction matrix: 512 × 512 1024 × 1024

Image thickness

TSX-308A, TSX-306A: 0.5, 1, 2^{*5}, 3, 4 and 5 mm

TSX-307B: 0.5, 1, 2, 3^{*5}, 4 and 5 mm

Reconstruction interval: Min. 0.25 mm

Max. 5 mm

Note: Reconstruction interval can be selected equal to the image thickness or the value calculated by dividing the image thickness by 2.

Reconstruction range

TSX-308A, TSX-306A: 320 and 640^{*1} images/volume

TSX-307B: 80^{*6} and 160^{*2, *6} images/volume

Magnified reconstruction

Available magnification size

(depends on the anatomical region) (mm)

BODY	Min. 100
LUNG ^{*4}	Min. 100
CARDIAC	Min. 70

(not dependent on cFOV)

Image processing

SEMAR (Single Energy Metal Artifact Reduction)

CLEAR Motion^{*3}

SITING REQUIREMENTS

Ambient conditions

Same as those for the CT system.

The required capacity of the air conditioning facilities is increased by 2.6 kW when this system is installed.

Power supply and grounding

Power is supplied from the console (CON-BOX) of the CT system.

Installation of this system does not require an additional power supply unit or an increase in power supply capacity.

MASS

• Mass: 0.5 kg (1.1 lb)

APPLICABLE STANDARDS

Same as those for the CT system.

*1: Dynamic volume CT upgrade kit is required for TSX-308A/3, /6, TSX-306A/K, /N.

*2: Dynamic volume CT upgrade kit is required for TSX-307B/1.

*3: Option

*4: System software version must be V1.5 SP0100 or later.

*5: Only for helical scan

*6: Double slice kit is required for TSX-307B/1.

Manufacturer:

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Design and specifications are subject to change without notice.

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