Canon

WHOLE-BODY X-RAY CT SCANNER

# Aquilion ONE

## GENESIS Edition

*Product Data*
***No. MPDCT0768EAC***

## *APPLICATION*

Aquilion ONE / GENESIS Edition is a dynamic volume CT system that supports whole-body scanning.
This 320 detector row system generates 640 slices per rotation. Intensive clinically focused research and breakthrough technological developments have culminated in a CT system with industry leading spatial resolution and reduced radiation dose requirements.

## *FEATURES*

### Transforming clinical confidence

- PURE ViSION Optics
  A completely redesigned X-ray system from photon generation to beam distribution and detection is the basis of PURE ViSION Optics. This results in a better balance between image quality and dose.
  Quantification of dose reduction and Low Contrast Detectability (LCD)*1
  Body CT
  – Up to 30% dose reduction at equivalent low contrast detectability*2
  – Up to 18% improvement in low contrast detectability at equivalent dose*2
  – Reduced streak artifact
  Brain CT
  – Up to 22% improvement in low contrast detectability at equivalent dose*2

  PURE ViSION detector
  – Higher-precision manufacturing produces light output increased by 40%.

- Advanced intelligent Clear-IQ Engine (AiCE)
  The Aquilion ONE / GENESIS Edition utilizes a next generation approach to CT reconstruction that integrates a Deep Convolutional Neural Network trained to perform one task – reconstruct CT images that are sharp and clear. AiCE is trained using thousands of Model-Based Iterative Reconstruction (MBIR) image patches, to separate structure from noise. Validated for accuracy, AiCE uses thousands of features learned during training (Deep Learning) and applies its expansive knowledge to produce fast, high quality CT reconstruction.



– Is integrated into SURE Exposure 3D, ensuring automatic dose reduction
– AiCE reconstruction is performed with multiple high performance GPUs in reconstruction unit
– Reconstructs in parallel with InstaView realtime reconstruction
– Reconstruction speed up to 40 fps
– 79.6% to 82.4% dose reduction*2, *3, *4
– 12.2% better low contrast detectability than Adaptive Iterative Dose Reduction 3D (AIDR 3D)*5 for abdomen at same dose level*2
– Image noise appearance more similar to filtered back projection reconstruction than FIRST (Forward projected model-based Iterative Reconstruction SoluTion)

*1: A non-prewhitening model observer study was conducted comparing Aquilion ONE / GENESIS Edition to the Aquilion ONE. Dose reduction values were established by comparing low contrast detectability under baseline conditions for abdominal and brain examination.
*2: Based on the detectability index performance metric, a measure of signal to noise that takes into account the magnitude and texture of both the signal and the noise for a given LCD task.
*3: A model observer evaluation showed that equivalent low contrast delectability to FBP (range from 0.649 - 0.695) can be achieved with 79.6% to 82.4% less dose using AiCE at Standard setting for thin (0.5 mm) reconstruction slice thickness in simulated body phantom (MITA-FDA phantom with a body ellipse surrounding it).
*4: In clinical practice, use of AiCE may reduce the CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. Please consult with a radiologist and a medical physicist to determine the appropriate dose for obtaining diagnostic image quality in the particular clinical task. The Area Under the Curve (AUC) detectability metric is a way to define image quality based on how well an observer can detect a signal in the image. The AUC ranges from 0.5 to 1. The larger the value is, the better the image quality. An AUC of 0.5 can be interpreted as random guessing (50% correct), while a detectability of 1 corresponds to perfect detection (100% correct).
*5: AIDR 3D Standard at MTF 10%

- FIRST
  FIRST, the Full-MBIR reconstruction solution, provides the uncompromised image quality.
  – Is integrated into SURE Exposure 3D, ensuring automatic dose reduction
  – Requires as little as 3 minutes*1 for full volumetric reconstruction
  – Reconstructs in parallel with InstaView realtime reconstruction
  – 54% to 101% better low contrast detectability for head at equivalent dose*2, *3
  A model observer evaluation showed that equivalent low contrast delectability to FBP (range from 0.636 - 0.705) can be achieved with 59.2% to 82.4% less dose*4 with up to 49.2% noise*5 reduction using FIRST at Standard setting for thin (0.5 mm) reconstruction slice thickness in simulated body phantom (MITA-FDA phantom with a body ellipse surrounding it).

### Transforming the patient experience

- Patient friendly open flare design
  Unique flared gantry provides a calming, wide-open space for a better patient experience. The short bore is safer with improved access to your patients, from the front and rear of the gantry.
- Couch lateral movement*6
  Couch lateral movement ensures safety and comfort by providing a tool to mechanically move a patient in the correct position with the push of a button.
- SUREPosition
  SUREPosition remotely adjusts the patient position to the iso-center during scan plan, without the need for repeating the scano image.
- Gantry tilting
  Gantry tilting with maximum 30 degrees permits angled scanning at your desired reading plane and avoiding direct exposure to radiosensitive organs.
- Laser collimation with Area Finder*6
  Laser collimation allows the field of view and scan range to be set directly on the gantry. Examinations are performed faster and with reduced radiation dose.

### Transforming your workspace

- Minimum installation space
  Aquilion ONE / GENESIS Edition is designed for an installation space of just 19 $m^2$ to fit into most existing CT rooms, avoiding costly renovations.

## *COMPOSITION*

**Standard composition (Model: TSX-305A/4)**

Software version: V10.4

- Gantry ..... 1
- Patient couch ..... 1
- Console*7 ..... 1 set
- Power distributor ..... 1
- Accessories ..... 1 set
  – Inter-unit cables
  – Manuals
  – Set of phantoms, phantom holder
  – Scan support accessories
- Reconstruction processing unit (CCRS-003A)*8 ..... 1

### Optional items

- 4D Airways analysis (CSAA-001A)
- 4D Cerebral artery morphological analysis (CSAM-001A)
- 4D Orthopedic analysis (CSOA-001A)
- Adaptive Motion Correction (CSMC-001A)
- Body organ perfusion (CSBP-002A)
- Cardiac function analysis software (CFA) (CSCF-003A)
- Colon view (CSCV-001A)
- Display system for dental application (CDP-07A)
- Dual Energy system (CSDE-001A)
- Dual Energy composition analysis (CSDC-001A)
- Dual Energy raw data analysis (CSDR-001A)
- Spectral Imaging System (CSDE-004A)*9
- Fat index view (CSFM-001A)
- FlyThrough software (CFT-03A)
- Lung volume analysis (CSLV-001A)
- Myoperfusion software (CSMP-001A)
- Neuro package (including SURESubtraction) (CSNP-002A)
- SURECardio scoring (CSCS-001A)
- SUREPlaque (CSPV-002A)
- SURESubtraction angio (CSSA-001A)
- SURESubtraction iodine mapping (CSSI-001A)

*1: Typical standard body protocol for volume scan (320 images).
*2: Based on the detectability index performance metric, a measure of signal to noise that takes into account the magnitude and texture of both the signal and the noise for a given LCD task.
*3: FIRST Brain LCD mode
*4: In clinical practice, use of FIRST may reduce the CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. Please consult with a radiologist and a medical physicist to determine the appropriate dose for obtaining diagnostic image quality in the particular clinical task. The Area Under the Curve (AUC) detectability metric is a way to define image quality based on how well an observer can detect a signal in the image. The AUC ranges from 0.5 to 1. The larger the value is, the better the image quality. An AUC of 0.5 can be interpreted as random guessing (50% correct), while a detectability of 1 corresponds to perfect detection (100% correct).
*5: The term "noise" refers to the standard deviation of pixel magnitude.
*6: Option
*7: Desk not included
*8: Mandatory option
*9: CCRS-003A and CXGS-020A are mandatory.

- SURESubtraction coronary (CSSC-001A)
- SURESubtraction ortho (CSSO-001A)
- SURESubtraction lung (CSSL-001A)
- SURESubtraction scan system (CHSS-001A)
- Vessel view (CVV-001A)
- DICOM Storage SCP (COT-30D)
- DICOM MWM (COT-32D)
- DICOM MPPS (COT-33D)
- DICOM Q/R SCP (COT-34D)
- DICOM Q/R SCU (COT-35D)
- DICOM Storage Commitment SCU (COT-41D)
- DICOM PGP PROFILE (COT-44A)
- Additional connection kit for CRRS-020A (COT-54D)
- Color printer interface (PS format) (CCP-03A)
- ECG-gated scan system (CHEG-005A)
- vHP (Variable Helical Pitch) (CHVH-001A)
- Injector synchronization system (CKIS-003A)
- Injector synchronization system, CAN protocol Class 1 (CKIS-004B)
- Injector synchronization system, CAN protocol Class 4 (CKIS-005A)
- Orbital synchronized scan system (CKOS-001A)
- Respiratory-gated scan system (CKRS-004A)
- Respiratory-gating system (CKRS-004B)
- Rear operating panel kit (CAGP-003A)
- Couch lateral movement unit (CALU-001A)
- Flat couch top kit (CAFT-021A*1)
- Rear footswitches (CAFS-007A)
- SUREXtension (COT-49D)
- Protocol management (CSPM-001A)
- HANDY SNAP (CAXS-001A)
- CT Fluoroscopy (SUREFluoro) (TSXF-003I/TSXF-004A)
- LCD monitor for SUREFluoro (CMM-004B)
- Display console kit (CGS-94A)
- Area Finder (CGAP-001A)
- X-ray high-voltage generator upgrade kit (CXGS-020A)
- QA phantom kit (CAQA-001A)

Note: Please check with your sales representative as some of these options may not be available in your country or region.

## *PERFORMANCE SPECIFICATIONS*

### Scan parameters

- Gantry aperture: 780 mm in diameter
- Rotation: 360° continuous
- Tilt: ±30°
  Axial and helical scanning
  Gantry and remote controlled
- Rotation times

Unit: s

| | |
|---|---|
| Half scan | 0.18, 0.23 |
| Axial scan | 0.275, 0.3, 0.32, 0.35, 0.4, 0.5, 0.6, 0.75, 1.0, 1.5, 2.0, 3.0 |
| Dynamic scan, Helical scan, SURE Start | 0.275, 0.3, 0.32, 0.35, 0.4, 0.5, 0.6, 0.75, 1.0, 1.5 |

- Time between scans
  – S & S: Min. 1.5 s
  – S & V: Min. 2 s
- Continuous scan: Max. 100 s
- Acquisition modes
  – Axial
  320, 280, 260, 240, 200, 120 row scan: 0.5 mm
  4 row scan: 1, 2, 3, 4, 5 and 8 mm
  1 row scan: 1 mm
  – Axial, Helical
  160*2, 80, 40*2, 4*2 row scan: 0.5 mm
  – Helical
  100*2, 20*2 row scan: 0.5 mm
  40*2 row scan: 1 mm
- Scan field
  – CT scan

Unit: mm

| S | M | L |
|---|---|---|
| ϕ240 | ϕ320 | ϕ500 |

– Scanoscopy

Unit: mm

| Axial direction | Longitudinal direction |
|---|---|
| Up to 500 | Adjustable from 200 mm to 1950*1 200 mm to 1450*3 |

- Tube position for scanoscopy: 0°, 90°, 180° and 270°
  Any desired angle can be specified (in 5° increments).

### Dynamic volume scan

- Programmable time: Max. 1 hour/eXam Plan.
- Number of programmable scans: Max. 20
  Max. 100 s/scan
- Scan plan
  – Scan interval: Min. 1 s.
  Setting is possible in increments of 0.1 s in a scan interval of more than 1 s.

Note: When a scanning mode with patient couch movement is used, the minimum scan interval is limited by the time required for movement.

- Scan start delay time: Min. 0.5 s
  Setting is possible in increments of 0.1 s.
- Image reconstruction
  – Image interval: Reconstruction is possible in increments of 0.05 s.

*1: For the long patient couch version
*2: Except when Dual Energy helical scan is used
*3: For the short patient couch version

## Helical scan

- Continuous scan time: Max. 100 s
- Scan start time delay: Min. 1 s
  Setting is possible in increments of 0.1 s.
- Active Collimator: To reduce the exposure dose, the collimator operates asymmetrically at the start/end of scanning (except in the case of 4 row scanning).
- Scan length (with headrest): Max. 1950 mm/scan*1
  Max. 1450 mm/scan*2
- Couch-top speed: 0.8 mm/s to 200 mm/s
- SURE Exposure 3D: Function for continuously varying the X-ray tube current to ensure the optimal X-ray dose during helical scanning.
- SURE kV: The effective kV will be automatically selected based on patient size and SURE Exposure settings.
- Image reconstruction time: Up to 80 images/s with AIDR 3D (0.0125 s/image)
  (depending on the scan and reconstruction conditions)
- Real-time helical reconstruction time: 12 images/s (0.083 s/image)
  (1 slice, 512 × 512 matrix)
- Reconstruction position setting: In increments of a minimum of 0.1 mm by entering the couch-top position or using the scanogram.
- Reconstruction interval setting: In increments of a minimum of 0.1 mm.

## SURE Start

- Scan start mode: Automatic
  Manual
- Continuous scan time: Max. 100 s
- Region of interest (ROI): Max. 4
  (1 ROI for VoiceLink)
- CT number measurement interval: 0.083 s
- Scan start delay time: Min. 3 s
- Display function: Mean CT number within the ROI, elapsed time

## Voice-recorded instruction and scan system (VoiceLink)

Voice instructions to the patient can be recorded electronically by the operator and automatically played back during scan sequences as part of the eXam Plan.

- Number of messages: Max. 200
- Recording time: Max. 30 s per message
- Delay time setting: The delay time between the end of the message and the start of scanning can be set up to 10 s in increments of 1 s.

## Patient couch

| Load (kg [lb]) | Maximum | 315*3 (694) | |
|---|---|---|---|
| Table type | | Long | Short |
| Width (mm) | | 470 | |
| Step feed (mm) | Range | 0.5 - 600 | |
| | Increments | 0.5 | |
| Height (mm) | Maximum | 940 | |
| | Minimum | 332 | |
| Stroke (mm) | Vertical | 608 | |
| | Horizontal | 2390 | 1890 |
| Scan range (with headrest) (mm) | | 2000 | 1500 |
| Horizontal Reproducibility (mm) | | ± 0.25*4 | |
| | | ± 1.0*5 | |
| Speed (mm/s) | Vertical | 10 / 65 | |
| | Horizontal | 10 / 200 | |
| System driver | Vertical | Motor | |
| | Horizontal | Motor / Manual | |

*1: For the long patient couch version
*2: For the short patient couch version
*3: Patient weight Max. 300 kg (661 lb) + Accessories 15 kg (33 lb)
*4: For patient weight < 230 kg
*5: For patient weight > 230 kg and < 300 kg

## X-ray generation

- X-ray beam shape
  - Fan beam
  - Channel-direction angle (fan angle): 49.2°
  - Slice-direction angle (cone angle): Max. 15.2°
- X-ray exposure: Continuous
- X-ray tube voltage: 80, 100, 120 and 135 kV
- X-ray tube current: 10 mA to 900 mA
  (adjustable in 5 mA increments from 10 to 50 mA, and in 10 mA increments over 50 mA.)
  1800 mA max. equivalent with AIDR 3D*
  180 kW equivalent with AIDR 3D*
- X-ray tube heat capacity: 7.5 MHU
  14 MHU equivalent with AIDR 3D*
- X-ray tube cooling rate: Max. 1386 kHU/min (16.5 kW)
  Actual 873 kHU/min (10.4 kW)
- Focal spot size
  - IEC 60336: 2005, nominal: 0.9 mm × 0.8 mm (small)
    1.6 mm × 1.5 mm (large)

*: Applying AIDR 3D, the same standard deviation on water phantom images can be obtained at lower mA with less tube output.

## X-ray detection

- Detection system: Solid-state detectors
- Main detector: 896 × 320 elements
- Data acquisition: 896 channels × 320 rows
- Reference detector: 1 set
- View rate: Max. 2910 views/s

## Data processing

- Reconstruction matrix
  - Axial image and scanogram: 552 × 1950*1 (max.)
    552 × 1450*2 (max.)
    512 × 512
- Picture element (pixel) size
  - CT image

Unit: mm

| Scan field | S | M | L |
|---|---|---|---|
| Pixel size | * to 0.47 | * to 0.63 | * to 0.98 |

*: Depending on the Vari-Area or Zoom factor

  - Scanogram

Unit: mm

| Scan field | S | M | L | LL |
|---|---|---|---|---|
| Standard | 0.5 | 1.0 | 1.0 | 1.0 |

- Dose reduction functions
  - AIDR 3D
  - AIDR 3D Enhanced
- Metal artifact reduction function
  - SEMAR (Single Energy Metal Artifact Reduction)
- Reconstruction filter functions
  - Abdomen with BHC
  - Abdomen without BHC
  - Brain with BHC
  - Brain without BHC
  - Inner ear and bone
  - Lung
  - High-resolution mode for evaluation of resolution parameters
  - Auditory ossicles and the spine with high-resolution processing
  - Maintenance
- Post-scan filters
  - Standard: 2 types (fixed parameters)
  - User: 10 types (settable parameters)
- Number of reconstructed images: Max. 640 images/rot.
  (for volume scanning and dynamic volume scanning)
- Reconstruction time: Min. 5 s/volume
  (reconstruction cycle time)
  [1 volume: (512 × 512 matrix) image × 320 slices]
  (depending on the scan and reconstruction conditions)
- Real-time scanoscopy
- Data processor (scan console)
  - CPU: 64 bit
  - Memory size: 32 GB
  - Magnetic disk unit: Raw data, 3.3 TB
    Image data, 500 GB

*1: For the long patient couch version
*2: For the short patient couch version

## Data storage

- Magnetic disk
  - Raw data: 1700 rotations or more (for volume scan with 320 rows and 0.5 s)
  - Image data: 800000 images or more (when converting to 512 × 512 pixel image)
- DVD-R: 4.7 GB
  - DICOM images: 7500

## Image display

- Display monitor: 48.1 cm (19 inch) color LCD
- Monitor matrix: 1280 × 1024
- Image matrix: 1024 × 1024 (max.)
- CT number
  - Display range: -32768 to +32767
- Window width/level: Continuously variable
- Preset windows: 3/image
- Window types: Linear, non-linear (6 user-programmable) and double windows
- Image retrieval
  - Method: On-screen menus and keyboard
  - Mode: Image, series, and patient
- Multi-frame display: Reduction/cut-off display, ROI processing
- Inset scanogram display
- Information display: User selectable
- Cine display: Variable speed
- Scanogram/CT image switching: Show/hide scano line, zoom
- Slice-feed playback (CineView): High-speed image feeding using the mouse or keyboard

## Image processing

- Scanogram processing
  - Slice position display (planned slice, preset slice and last scanned slice)
  - Anatomical scale (display of position, relative to selected zero position)
  - Slice position setting
  - Enlargement
- CT image processing
  - ROI
    - Shape: Point, rectangular, polygonal, elliptical, irregular
    - Processing: Mean value, standard deviation, area, number of pixels, maximum value, minimum value
    - Display: Max. 10/image
    - Control: Size, position, rotation
  - Measurement of distance and angle between two points
  - Profile (oblique profile also available)
  - Histogram display
  - CT number display
  - Mark display (grid display, scale display)
  - Volume calculation
  - Enlargement, reduction, panning
  - Addition/subtraction between images
  - Band display (non-linear windowing)
  - Comment and arrow insertion
  - Top/bottom, right/left, black/white reversal of image
  - Image filtering
  - Image rotation (arbitrary rotation)
  - Screen save
- Raw data processing
  - Zooming reconstruction
  - Protect/Unprotect
  - Priority reassignment in reconstruction queue

## System management

- Warm-up function
- Calibration data acquisition
- Patient data input
- Patient appointment function
- Examination summary
- eXam Plan editing
- Modification of related information
- Operation environment settings
- Slice counter
- Gantry rotation counter
- Sleep mode
- Access control (NEMA XR-26)

## Dose management

- $CTDI_{vol}$/DLP/Geometric efficiency in z-direction
- Dose check (NEMA XR-25)
- DICOM SC Exposure summary
- DICOM SR compliant Dose report

## Clinical applications

- Dynamic study
- 3D color image processing (surface rendering, volume rendering, MPR, curved MPR, MIP, cine)
- Automatic MPR (MultiView)

## Image transfer

- 1000BASE-T
- DICOM storage SCU
- Enhanced DICOM
- TIFF conversion

## IMAGE QUALITY

| Noise | |
|---|---|
| Standard deviation | Less than 0.5% |
| Scan parameters | |
| Tube voltage | 120 kV |
| Tube current | 500 mA* |
| Scan time | 1 s |
| Slice thickness | 8 mm (4 mm × 4 rows : 2 stack) |
| Reconstruction function | FC70 |
| Scan field | S |
| Phantom | ϕ24 cm water |

*: Corresponds to 400 mA at a 10 mm slice thickness.

| Spatial resolution | |
|---|---|
| Resolution | 22.5 lp/cm at MTF 0%*<br>17.5 lp/cm at MTF 2%<br>12.0 lp/cm at MTF 50%<br>*For reference |
| Scan parameters | |
| Tube voltage | 120 kV |
| Tube current | 200 mA |
| Scan time | 1 s |
| Slice thickness | 2 mm (0.5 mm × 4 rows : 4 stack) |
| Reconstruction function | FC90 |
| Scan field | S |
| Phantom | IRIS QA phantom |

| High-contrast detectability | |
|---|---|
| X-Y plane | 0.31 mm |
| Scan parameters | |
| Tube voltage | 120 kV |
| Tube current | 250 mA |
| Scan time | 1.5 s |
| Slice thickness | 0.5 mm |
| Reconstruction method | MUSCOT* |
| Reconstruction function | FC90 |
| Scan field | S |
| Phantom | Catphan® 500 phantom (CTP528 module) |
| Z-direction | 0.31 mm |
| Scan parameters | |
| Tube voltage | 120 kV |
| Tube current | 250 mA |
| Scan time | 1.5 s |
| Slice thickness | 0.5 mm |
| Reconstruction method | TCOT** with 0.5 mm SR |
| Reconstruction function | FC70 |
| Scan field | S |
| Phantom | Catphan 500 phantom (CTP528 module) |

*: Multi-slice Cone-beam Tomography
**: True Cone-beam Tomography

| Low contrast detectability | |
|---|---|
| Object size (A) | 2 mm at 0.3% |
| $CTDI_{vol}$ | 15.2 mGy |
| Object size (B) | 3 mm at 0.3% |
| $CTDI_{vol}$ | 5.6 mGy |
| Scan parameters | 10 mm (with AIDR 3D) |
| Phantom | ϕ20 cm Catphan |

- $CTDI_{vol}$ (Volume $CTDI_w$, Unit: mGy/100 mAs)
  - Head mode: 15.3 mGy*
  - Body mode: 6.6 mGy*

*: Measured on Standard Head and Body CTDI phantoms.

## SYSTEM ENERGY CONSUMPTION

Daily energy consumption by 20 abdomen scans*

- Scenario Off 56.9 kWh
- Scenario Idle 88.1 kWh

*: Measurement according to "COCIR Self-Regulatory Initiative for medical imaging equipment – CT Measurement of energy consumption – Revision V0"

## SYSTEM COMPONENTS AND THEIR FUNCTIONS

### Gantry

The gantry can be tilted forward and backward in order to perform tilted scanning.
Three-dimensional alignment lights are provided for setting slice positions. Gantry and patient couch operating controls are provided on the left and right sides of both the front and the rear of the gantry housing.
The monitor (ⓘStation) indicates information, such as the patient name and the scan status to the operator and the patient.

### X-ray generator

This unit supplies stable high voltage to the X-ray tube unit. The high-frequency inverter method is employed, resulting in a light and compact design. This unit is incorporated in the gantry.

- Max. power: 100 kW<br>180 kW equivalent with AIDR 3D*

*: Applying AIDR 3D, the same standard deviation on water phantom images can be obtained at lower mA with less tube output.

### X-ray tube

This is a large-capacity, high-cooling-rate X-ray tube that is able to withstand continuous operation as in helical scanning.

- Heat capacity: 7.5 MHU
  14 MHU equivalent with AIDR 3D*
- Cooling rate: Max. 1386 kHU/min

*: Applying AIDR 3D, the same standard deviation on water phantom images can be obtained at lower mA with less tube output.

### Patient couch

The patient couch moves vertically and the top moves longitudinally. In an emergency, the couch top can be pulled out manually with very little effort. The couch top can also be lowered to a minimum height of 332 mm from the floor, facilitating transfer of the patient from a low bed or stretcher.

### Console

The console is provided with a hybrid keyboard, a monitor, and a mouse.

- Functions of the console for scanning
  – Selection of scan parameters
  – Scanoscope control
  – Scan control
  – Couch-top movement control
  – Gantry tilt control
- Functions of the console for image processing
  – Window level and window width adjustment
  – Other mouse-operated image processing functions

## *OPERATING FEATURES*

### Patient handling and positioning

- The couch top can be lowered to 332 mm from the floor, making it easier to transfer the patient to and from a bed or stretcher.
- Alignment lights are provided in the gantry aperture for fast and accurate patient positioning.
- High-precision couch-top positioning is possible from the integrated console or by manual operation from the control panel and clear digital readouts are provided on the gantry.
- The couch top can be pulled out manually in an emergency.

### Scanning

- Scanoscope function provides by projection image of the patient for high-precision advance planning of the scan areas.
- Within the scanogram the length of the scan area can be adjusted up to 1950*1 and 1450*2 mm. Because the images are reconstructed in real time, the scan can be aborted at any time. This minimizes the patient exposure dose.
- The auto index function allows automatic incremental couch-top movement based on the slice positions determined through the scanogram.
- The eXam Plan function allows simple selection of pre-programmed scanning parameters for routine examinations, maximizing patient throughput.
- The Vari-area function allows the user to pre-select a region of interest for zooming using raw data, permitting immediate post-scan analysis. Zooming using raw data yields higher resolution than enlarging an image that has already been reconstructed.
- Dynamic and rapid sequence scan modes are provided.
- Multislice helical scan acquires raw data by rotating the X-ray tube continuously while moving the patient continuously through the scanner. The volume data acquired can be used to reconstruct axial slices at any desired positions. This scan mode is best used for rapid patient scanning during a single breath-hold and for high-definition three-dimensional and MPR imaging.
- InstaView technology provides near-instant display and review with full-matrix images. High-quality realtime image review is perfectly suited for emergency patients, where every second to diagnosis counts.
- The SURE Start function allows the operator to start volume scanning or helical scanning at the timing of maximum enhancement in contrast studies. SURE Start monitors the contrast appearance in CT number on the image being displayed in real time. When the contrast reaches the predefined threshold, dynamic volume scan or helical scan automatically starts. This technique ensures optimal contrast enhancement, independent of individual differences in blood flow speed, and at the same time minimizes the dose of contrast medium.

### Data processing

- A variety of reconstruction algorithms are available and can be selected according to the anatomical region examined and the clinical objective of the study. These include algorithms for the abdomen, head, bone, lung, small structures, soft tissues, etc.

*1: For the long patient couch version
*2: For the short patient couch version

### Image display and processing

- Reconstructed images are automatically displayed according to the window settings preset in the eXam Plan.
- The window save function allows the user to store an image with window settings different from the ones set in the eXam Plan.
- Filter parameters can be customized through simple on-screen menu selections. These parameters include the number of filtering passes, matrix size, and filter coefficients.
- Images can be rotated and reversed (right/left, top/bottom, or black/white).
- The Multi-frame feature allows up to 16 images to be displayed simultaneously on the screen.
- The three-dimensional image display function allows color three-dimensional and real-time MPR images to be generated from the volumetric scan data acquired by volume scanning, dynamic volume scanning, or helical scanning.

### Image filming

- Filming of images can be performed manually or automatically from the console.
- Automatic filming sends an entire study to the laser printer. Filming is performed in background mode so that other scanner and image processing functions can be performed without interruption or delay.
- When T-mode is used, related information items displayed together with an image (surrounding the image, in a small font) are displayed in the footer area using a larger font, permitting not only easier reading but also simpler film management.

Note: To use T-mode, the laser imager must support 2048 pixels × 2404 pixels for a 1 × 1 frame.

### Patient throughput

Patient throughput and cost effectiveness were major objectives in the design and production of the Aquilion ONE CT scanner.

- The system incorporates a 7.5 MHU X-ray tube with a very fast cooling rate of 873 kHU/min in actual use.
- High-speed scans can be performed in as little as 0.275 second per scan.
- In volume scanning, scanning can be performed at 0.5 mm × 320 detector rows per 0.275 second.
- Real-time scanoscopy.
- CT images can be reconstructed in min.5 seconds per volume. [1 volume: (512 × 512 matrix) image × 320 detector rows]
- The routine scan cycle time is as short as 2.0 seconds (Conventional S & V mode)
- Ease of operation is ensured by incorporating use of a hybrid keyboard, mouse-driven menus, and large color LCD screens.

## COMPLIANCE

Council Directive 93/42/EEC and subsequent amendments

IEC 60601-1: 2005+Amd.1: 2012
IEC 60601-1-2: 2007
IEC 60601-1-2: 2014
IEC 60601-1-3: 2008+Amd.1: 2013
IEC 60601-1-6: 2010+Amd.1: 2013
IEC 60601-1-9: 2007+Amd.1: 2013
IEC 60601-2-28: 2010
IEC 60601-2-28: 2017
IEC 60601-2-44: 2009+Amd.1: 2012+Amd.2: 2016
IEC 60825-1: 2007
IEC 62304: 2006+Amd.1: 2015
IEC 62366: 2007+Amd.1: 2014
NEMA XR25-2010
NEMA XR26-2012 Access controls

## DIMENSIONS AND MASS

| Unit | | Dimensions W × L × H<br>mm (in) | Mass<br>kg (lb) |
|---|---|---|---|
| Gantry | | 2270 × 960 × 1925<br>(89.4 × 37.8 × 75.8) | 2360<br>(5203) |
| Patient couch | 315 kg (694 lb) Long patient couch version | 660 × 2890 × 470<br>(26.0 × 113.8 × 18.5) | 700<br>(1543) |
| | 315 kg (694 lb) Short patient couch version | 660 × 2390 × 470<br>(26.0 × 94.1 × 18.5) | 655<br>(1444) |
| Console | STNAVI BOX | 200 × 310 × 350<br>(7.9 × 12.2 × 13.8) | 12<br>(26) |
| | CON BOX | 590 × 965 × 1678<br>(23.2 × 38 × 66.1) | 340<br>(750) |
| Power distributor | | 980* × 680 × 1315<br>(38.6* × 26.8 × 51.8) | 650<br>(1433) |

*: When the power distributor is secured using anchor bolts.

## SITING REQUIREMENTS

### Power requirements

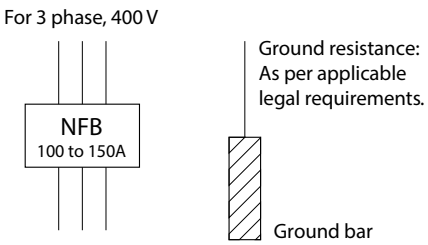
- Phase: Three-phase
- Line voltage: 380, 400, 415, 440, 460 or 480 VAC
- Frequency: 50 Hz or 60 Hz
- Power capacity: 125 kVA
- Voltage fluctuation due to load variation: Less than 5%
- Power voltage fluctuation: Less than 10%*

*: Represents the total voltage fluctuation due to load and power variation.

### Grounding

Grounding must be provided in accordance with local regulations for medically used electrical equipment.

### Power distribution board

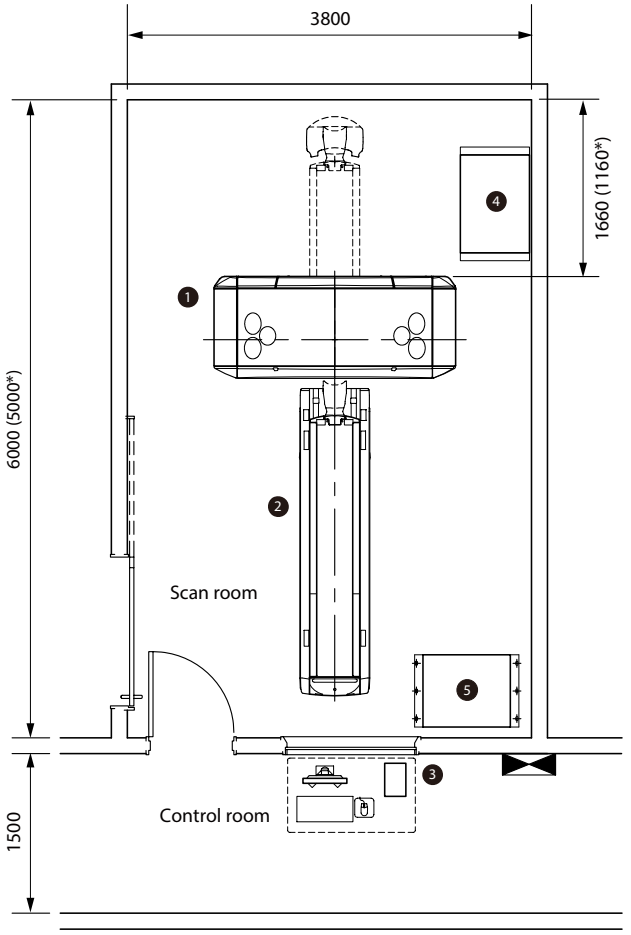



### Ambient conditions

| | Temperature | Humidity | Heat generation |
|---|---|---|---|
| Scan room | | | |
| Gantry (including Patient couch) | 20°C to 26°C Tolerance: ±2°C | 40% to 80% No condensation | Approx. 18017 kJ/h* 32431 kJ/h** |
| Control room | | | |
| Console (STNAVI BOX) | 16°C to 28°C | 40% to 80% No condensation | Approx. 721 kJ/h |
| Machine room | | | |
| Console (CON BOX) | 16°C to 28°C | 40% to 80% No condensation | Approx. 10090 kJ/h |
| Power distributor | 16°C to 28°C | 40% to 80% No condensation | Approx. 2522 kJ/h* 7567 kJ/h** |

*: When scanning is not performed.
**: When scanning is performed continuously at maximum rated output of the system.

### Room layout example
### (For the 315 kg (694 lb) patient couch version)




*: For the short patient couch version

Unit: mm

1 Gantry
2 Patient couch
3 Console (STNAVI BOX)
4 Console (CON BOX)
5 Power distributor

### Minimum area for installation

| | |
|---|---|
| Long patient couch version | 28.5 $m^2$ |
| Scan room area | 22.8 $m^2$ |
| Control room area | 5.7 $m^2$ |
| Short patient couch version | 24.7 $m^2$ |
| Scan room area | 19 $m^2$ |
| Control room area | 5.7 $m^2$ |

## Installation requirement

### Scan room

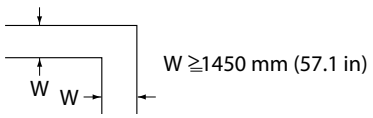
- Before installing the gantry, check the maximum permissible floor load.
- The scanner emits radiation. X-ray shielding must be provided around the scan room and the entrance in accordance with all local requirements and regulations.
- The ceiling should be at least 2500 mm when a ceiling mounted contrast injector is installed.
- Wiring pits and ducts are required for routing cables that connect the various units.

### Control room

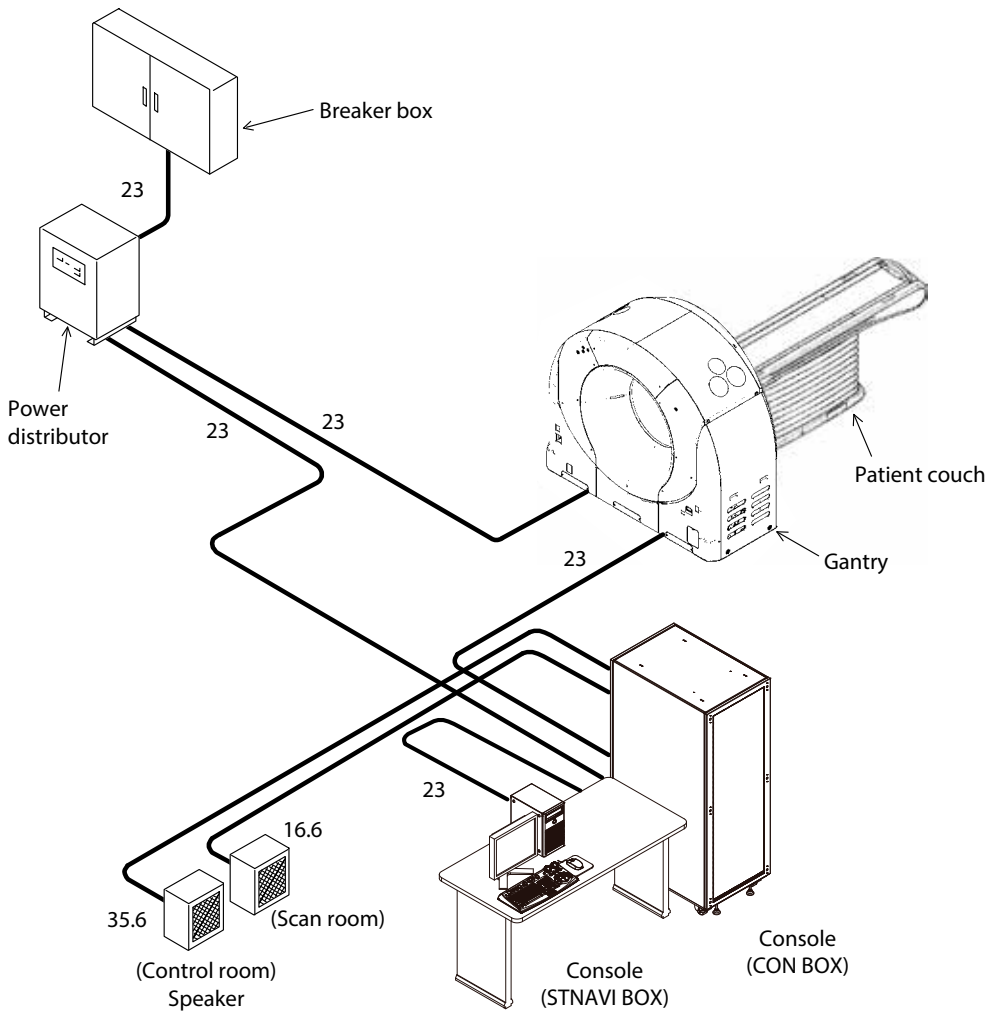
- An observation window is required for monitoring the scan room. X-ray shielding of the window glass must be provided in accordance with all local requirements and regulations.
- Wiring pits and ducts are required for routing cables that connect the various units.
- The control room should have entrances for access to the corridor and the scan room.

### Checks before bringing in the unit

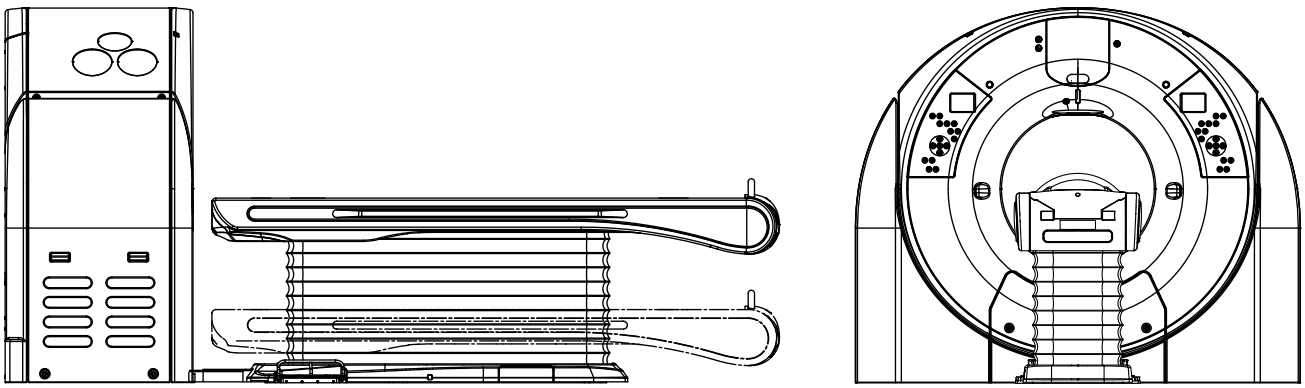
- Check in advance the width of the corridor, the dimensions of the entrance, and the dimensions and maximum allowable load of the stairs and elevators to ensure that it is possible to bring in the unit safely and without difficulty.
- Minimum external dimensions of the entrance used for bringing in the unit are as follows
  – Width: 990 mm (40 in)
  – Height: 1955 mm (77 in)
- The corners of corridors should be as illustrated below.
- Elevator minimum load: 3000 kg (6614 lb)




### Cable length between units in meters

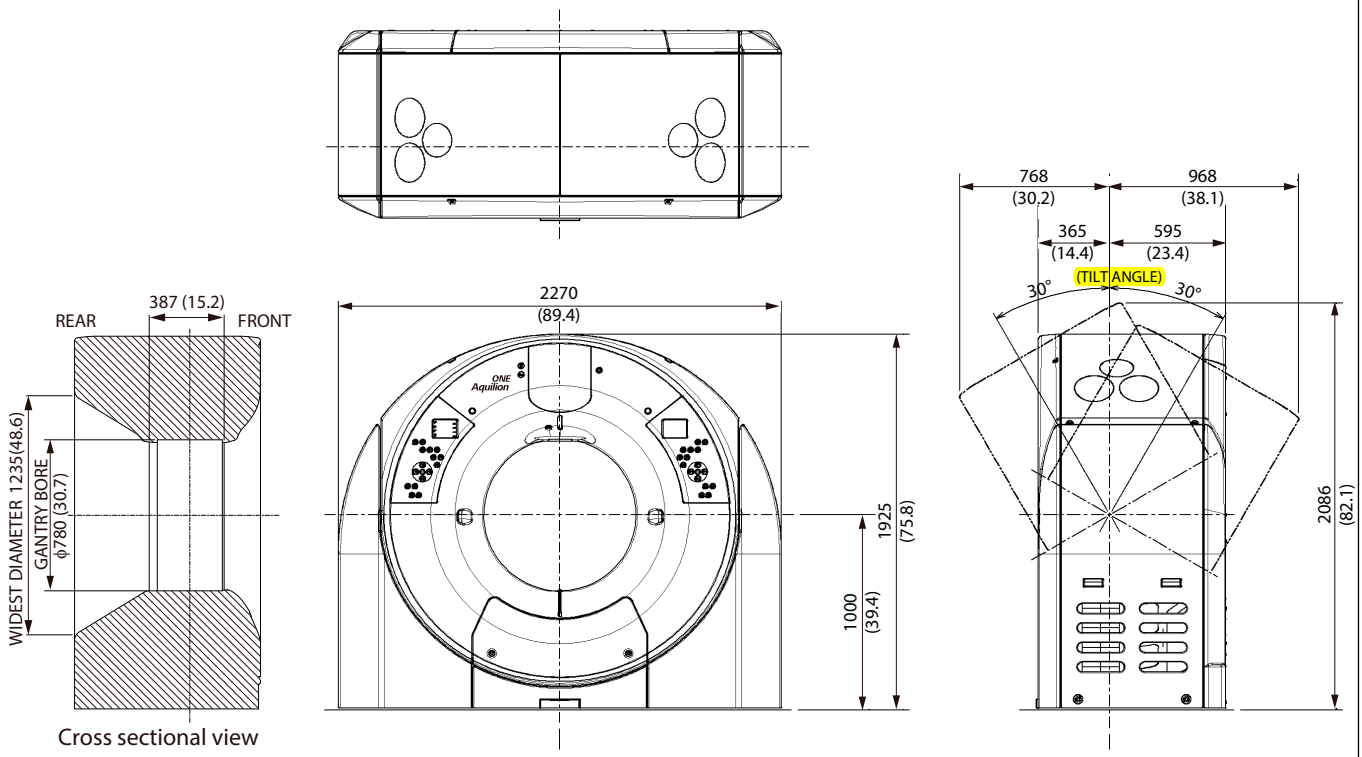


## *OUTLINE DRAWINGS*



**Gantry and patient couch**

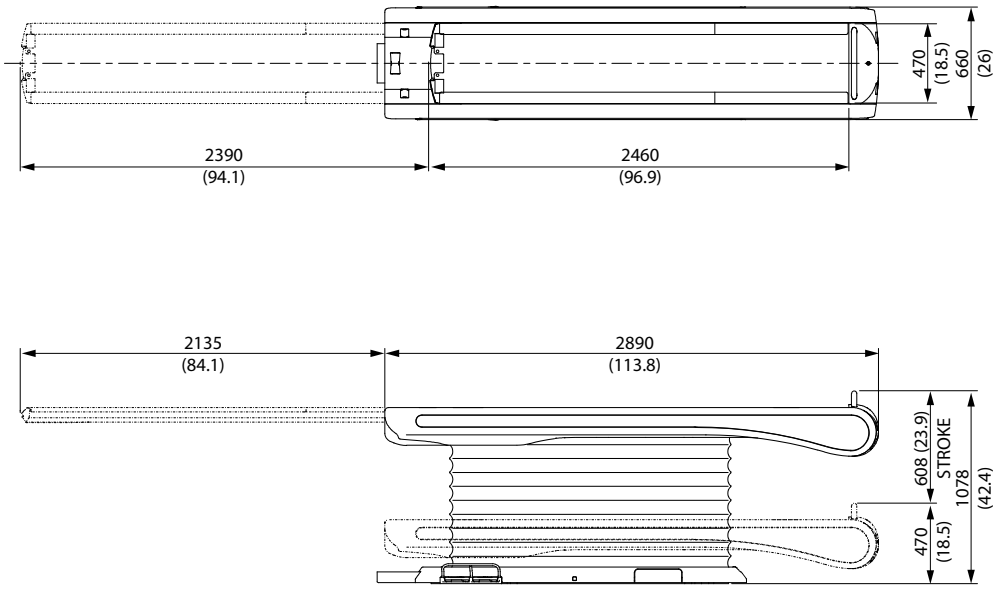
## *OUTLINE DRAWINGS*



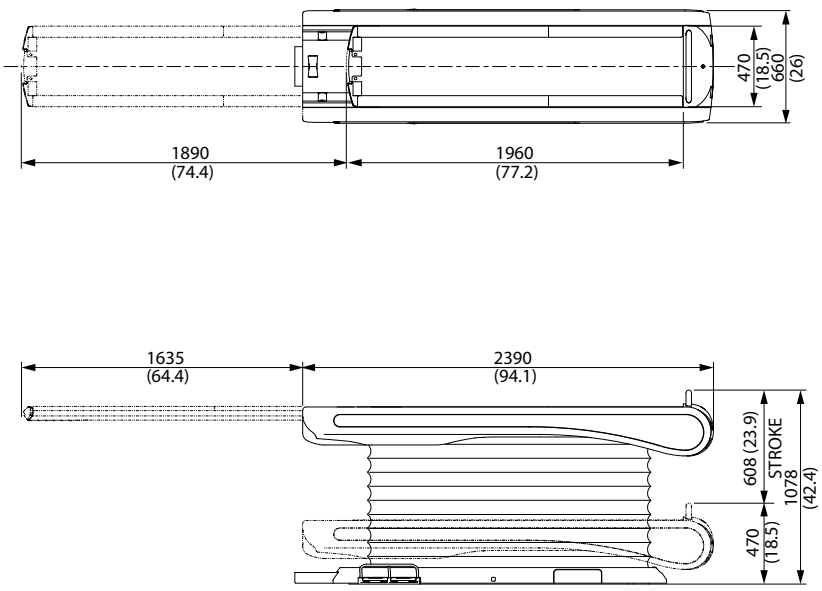

**Gantry**

Unit: mm (in)

## *OUTLINE DRAWINGS*



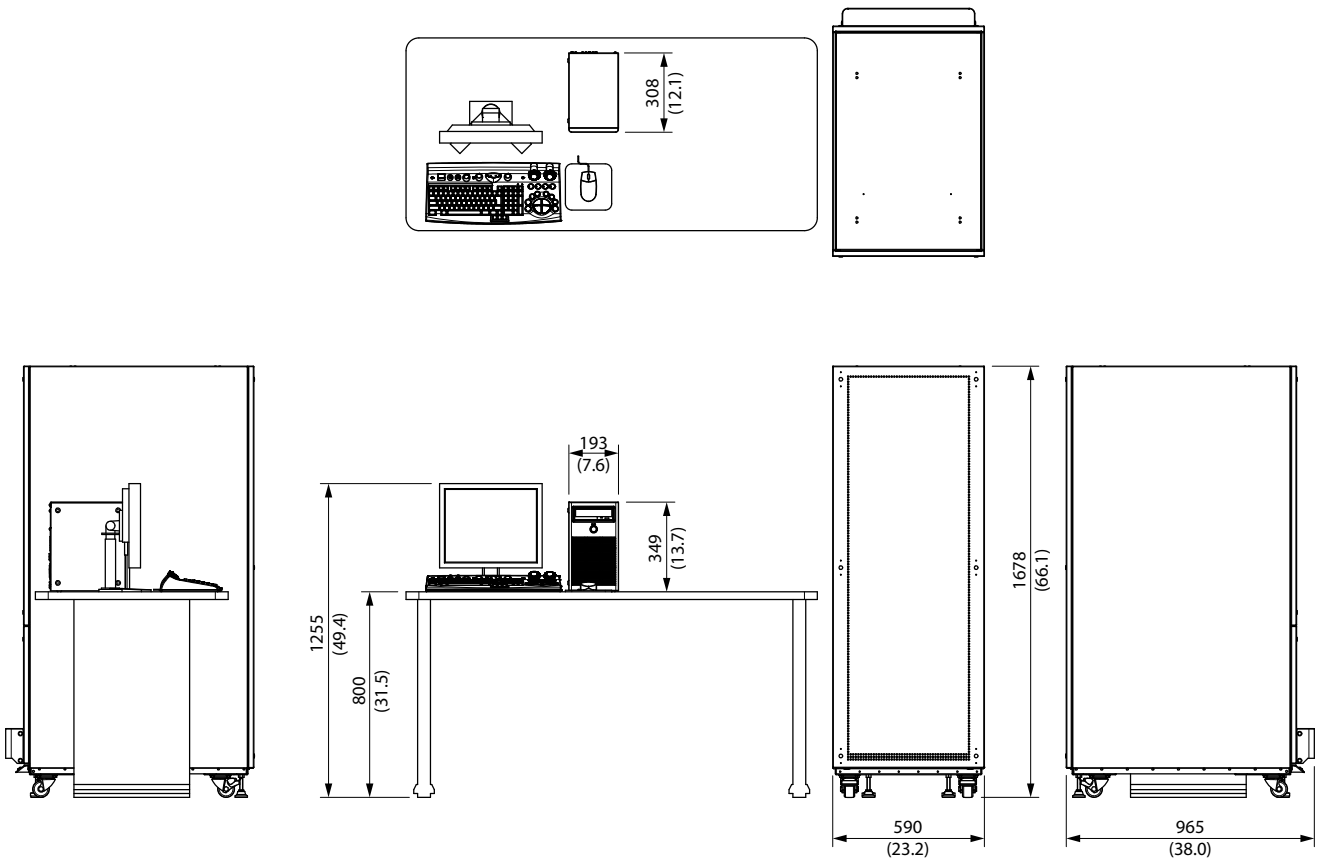

**Patient couch (for the long patient couch version)**




**Patient couch (for the short patient couch version)**

Unit: mm (in)

## *OUTLINE DRAWINGS*

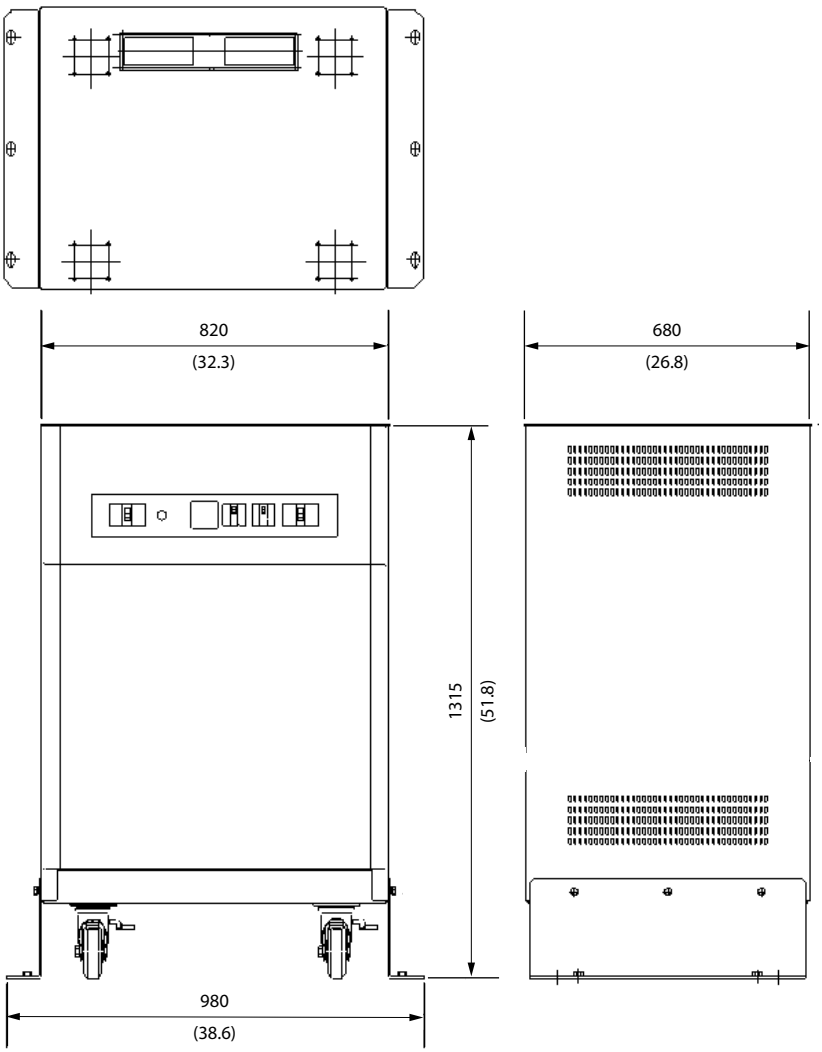



**Console**

Note: The console desk is not included in the standard configuration.
Some of the units shown in the photograph on the front page differ from those shown in the drawings above.

Unit: mm (in)

## *OUTLINE DRAWINGS*




**Power distributor**

Unit: mm (in)

CANON MEDICAL SYSTEMS CORPORATION
1385, Shimoishigami, Otawara-shi, Tochigi 324-8550, Japan
https://global.medical.canon


Model number: TSX-305A MPDCT0768EAC 2022-01 CMSC/Produced in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.
Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.



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*Product Data*
***No. MPDCT0787EAC***

DICOM3 STORAGE SCP SYSTEMS

# COT-30D

## *APPLICATION*

The DICOM3 Storage SCP system is used to receive image data that has been acquired and reconstructed by another CT system via Ethernet.
The applicable CT systems are shown below.

**COT-30D/1**

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-301A/2 |
| Aquilion | TSX-301B |
| | TSX-101A/N |
| | TSX-101A/E, /H, /J |
| | TSX-101A/D, /I, /K |
| | TSX-201A/1 |
| | TSX-101A/O, /P |
| | TSX-101A/G, /L |
| | TSX-101A/F, /M |
| | TSX-101A/7, /9 |
| Activion 16 | TSX-031A |
| Asteion | TSX-021B/4, /5 |
| | TSX-021B/6 |

**COT-30D/2**

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/4 |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-201A/2, /3 |
| | TSX-101A/R |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

**COT-30D/0***

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/2, /4 |
| Aquilion | TSX-301B |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-101A/S |
| | TSX-201A/2, /3 |
| | TSX-101A/R, /U |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

*: Depends on region

Note: Some systems may not be available in your country or region. Please check with your sales representative.

## *FEATURES*

Image data that has been acquired and reconstructed by another CT system can be received by the CT scanner using a standard communication format. Images can easily be transferred from any CT system that supports the DICOM3 Storage SCU functions.

## COMPOSITION

**COT-30D/1, /2**

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

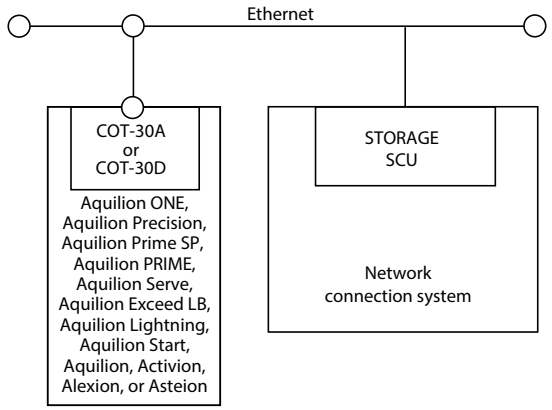
**COT-30D/0***

- License Sheet ..... 1
- Manuals ..... 1 set

*: Depends on region

Note 1: If this system is to be connected to a system for which functional compatibility has not yet been confirmed, connection tests may be required prior to installation of this system.

Note 2: The hardware for the Ethernet connection is not included in the standard composition.




Note 3: This system complies with the DICOM3 minimum requirements. Support of functions defined as optional in the DICOM3 is not guaranteed.

Note 4: The destination system should support the services of Aquilion series, Activion, Alexion and Asteion in conformance with the DICOM3 transmission standard. Refer to Conformance Statement for details of the services.

## MASS

- Mass: 0.1 kg (0.2 lb)

## POWER REQUIREMENTS

Power is supplied from the CT system.

## AMBIENT CONDITIONS

Same as those for the CT system.

CANON MEDICAL SYSTEMS CORPORATION
1385, Shimoishigami, Otawara-shi, Tochigi 324-8550, Japan
https://global.medical.canon


Model number: COT-30D MPDCT0787EAC 2022-09 CMSC/Produced in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.
Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

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DICOM3 MWM SCU SYSTEMS

# COT-32D

*Product Data*
***No. MPDCT0825EAA***

## *APPLICATION*

The DICOM3 MWM SCU system is used to receive the patient information required for CT examinations via Ethernet in accordance with the DICOM3 standard. The applicable CT systems are shown below.

### COT-32D/1

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-301A/2 |
| Aquilion | TSX-301B |
| | TSX-101A/N |
| | TSX-101A/E, /H, /J |
| | TSX-101A/D, /I, /K |
| | TSX-201A/1 |
| | TSX-101A/O, /P |
| | TSX-101A/G, /L |
| | TSX-101A/F, /M |
| | TSX-101A/7, /9 |
| Activion 16 | TSX-031A |
| Asteion | TSX-021B/4, /5 |
| | TSX-021B/6 |

### COT-32D/2

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/4 |
| Aquilion Precision | TSX-304A/1-3 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-201A/2, /3 |
| | TSX-101A/R |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

Note: Some systems may not be available in your country or region. Please check with your sales representative.

## *FEATURES*

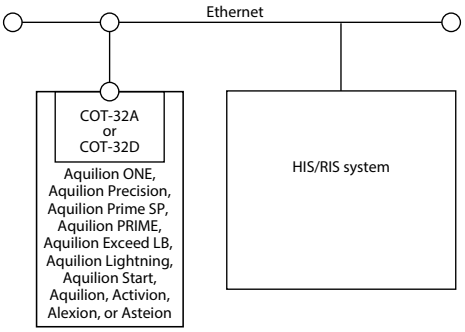
Patient information and examination instructions can be received from an external system such as a Radiology Information System (RIS) or Hospital Information System (HIS). The external system must support the DICOM3 MWM SCP functions.

## *COMPOSITION*

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

Note 1: If this system is to be connected to a system for which functional compatibility has not yet been confirmed, connection tests may be required prior to installation of this system.

Note 2: The hardware for the Ethernet connection is not included in the standard composition.




Note 3: This system complies with the DICOM3 minimum requirements. Support of functions defined as optional in DICOM3 is not guaranteed.

Note 4: The destination system should support the services of Aquilion series, Activion, Alexion and Asteion in conformance with the DICOM3 transmission standard. Refer to Conformance Statement for details of the services.

## *MASS*

- Mass: 0.1 kg (0.2 lb)

## *POWER REQUIREMENTS*

Power is supplied from the CT system.

## *AMBIENT CONDITIONS*

Same as those for the CT system.

CANON MEDICAL SYSTEMS CORPORATION
1385, Shimoishigami, Otawara-shi, Tochigi 324-8550, Japan
https://global.medical.canon


Model number: COT-32D MPDCT0825EAA 2020-12 CMSC/Produced in Japan

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DICOM3 QUERY/RETRIEVE SCP SYSTEMS

# COT-34D

*Product Data*
***No. MPDCT0789EAC***

## *APPLICATION*

This system is used to receive image queries from an external system and to send selected images to the external system via Ethernet in accordance with the DICOM3 standard.
The applicable CT systems are shown below.

### COT-34D/1

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-301A/2 |
| Aquilion | TSX-301B |
| | TSX-101A/N |
| | TSX-101A/E, /H, /J |
| | TSX-101A/D, /I, /K |
| | TSX-201A/1 |
| | TSX-101A/O, /P |
| | TSX-101A/G, /L |
| | TSX-101A/F, /M |
| | TSX-101A/7, /9 |
| Activion 16 | TSX-031A |
| Asteion | TSX-021B/4, /5 |
| | TSX-021B/6 |

### COT-34D/2

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/4 |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-201A/2, /3 |
| | TSX-101A/R |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

### COT-34D/0*

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/2, /4 |
| Aquilion | TSX-301B |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-101A/S |
| | TSX-201A/2, /3 |
| | TSX-101A/R, /U |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

*: Depends on region

Note: Some systems may not be available in your country or region. Please check with your sales representative.

## *FEATURES*

This system receives image query requests from an external system and sends back lists of matching images.
It also receives requests to transfer selected images in the list and sends the images to the external system, which must support the DICOM3 Query/Retrieve SCU functions.

## COMPOSITION

**COT-34D/1, /2**

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

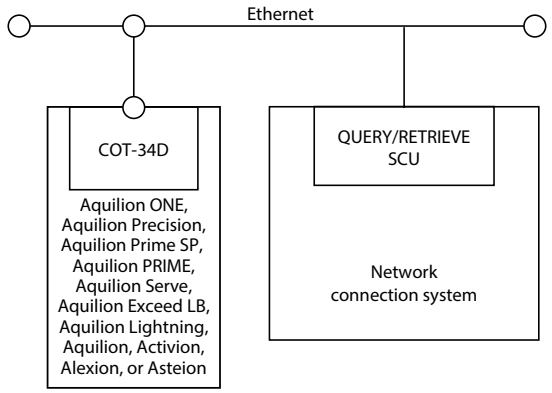
**COT-34D/0***

- License Sheet ..... 1
- Manuals ..... 1 set

*: Depends on region

Note 1: If this system is to be connected to a system for which functional compatibility has not yet been confirmed, connection tests may be required prior to installation of this system.

Note 2: The hardware for the Ethernet connection is not included in the standard composition.




Note 3: This system complies with the DICOM3 minimum requirements. Support of functions defined as optional in DICOM3 is not guaranteed.

Note 4: The destination system should support the services of Aquilion series, Activion, Alexion and Asteion in conformance with the DICOM3 transmission standard. Refer to Conformance Statement for details of the services.

## MASS

- Mass: 0.1 kg (0.2 lb)

## POWER REQUIREMENTS

Power is supplied from the CT system.

## AMBIENT CONDITIONS

Same as those for the CT system.

CANON MEDICAL SYSTEMS CORPORATION
1385, Shimoishigami, Otawara-shi, Tochigi 324-8550, Japan
https://global.medical.canon


Model number: COT-34D MPDCT0789EAC 2022-09 CMSC/Produced in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.
Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.



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*Product Data*
***No. MPDCT0848EAA***

DICOM3 QUERY/RETRIEVE SCU SYSTEMS

# COT-35D

## *APPLICATION*

This system is for sending an image query to an external system, selecting the necessary images in the returned image list, and receiving selected images from the external system via Ethernet according to the DICOM3 standard. The applicable CT systems are shown below.

### COT-35D/1

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-301A/2 |
| Aquilion | TSX-301B |
| | TSX-101A/N |
| | TSX-101A/E, /H, /J |
| | TSX-101A/D, /I, /K |
| | TSX-201A/1 |
| | TSX-101A/G, /L, /O, /P |
| | TSX-101A/F, /M |
| | TSX-101A/7, /9 |
| Activion 16 | TSX-031A |
| Asteion | TSX-021B/4, /5 |
| | TSX-021B/6 |

### COT-35D/2

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/4 |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-201A/2, /3 |
| | TSX-101A/R |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

Note: Some systems may not be available in your country or region. Please check with your sales representative.

## *FEATURES*

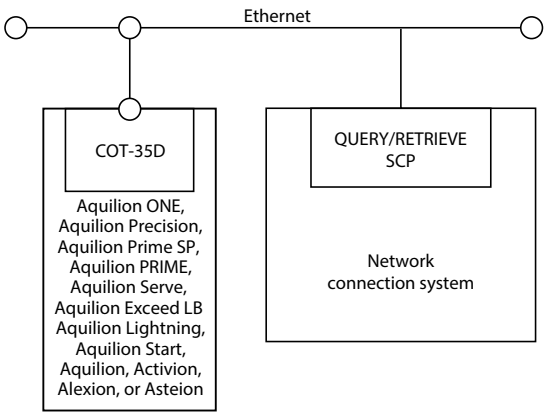
This system issues the image query to an external system, and receives the list of images. It then chooses the necessary images in the list, and requests the external system to send these images, and receives the requested images from the external system according to the DICOM3 standard. The external system must support the DICOM3 Query/Retrieve SCP function.

## *COMPOSITION*

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

Note 1: If this system is to be connected to a system for which functional compatibility has not yet been confirmed, connection tests may be required prior to installation of this system.

Note 2: The hardware for the Ethernet connection is not included in the standard composition.




Note 3: This system complies with the DICOM3 minimum requirements. Support of functions defined as optional in DICOM3 is not guaranteed.

Note 4: The destination system should support the services of Aquilion series, Activion, Alexion and Asteion in conformance with the DICOM3 transmission standard. Refer to Conformance Statement for details of the services.

## MASS

- Mass: 0.1 kg (0.2 lb)

## POWER REQUIREMENTS

Power is supplied from the CT system.

## AMBIENT CONDITIONS

Same as those for the CT system.

CANON MEDICAL SYSTEMS CORPORATION
1385, Shimoishigami, Otawara-shi, Tochigi 324-8550, Japan
https://global.medical.canon


Model number: COT-35D MPDCT0848EAA 2022-09 CMSC/Produced in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.
Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

Canon

DICOM3 STORAGE COMMITMENT SCU SOFTWARE

# COT-41D

*Product Data*
***No. MPDCT0219EAY***

## APPLICATIONS

This software makes the DICOM Storage Commitment SCU function available in CT systems. This function is applicable when the DICOM Storage SCU function (a standard function of the CT system) is used for the transfer of images (acquired or reconstructed by the CT system) from the CT system to the communication partner (hereinafter referred to as the server). The DICOM Storage Commitment SCU function informs the CT system of the results of image storage verification at the server after image transfer, enabling efficient image data handling and preventing unintentional image data deletion.
This software does not restrict the standard functions of CT systems. The applicable CT systems are as follows.

**COT-41D/2**

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-301A/2 |
| Aquilion | TSX-301B |
| | TSX-101A/N |
| | TSX-101A/E, /H*1, /J |
| | TSX-101A/D, /I*1, /K |
| | TSX-201A/1*2 |
| | TSX-101A/G*3, /L, /O, /P |
| | TSX-101A/F*3, /M |
| Activion16 | TSX-031A |
| Asteion | TSX-021B/4*4, /5*4 |

**COT-41D/3**

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/4 |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-201A/2, /3 |
| | TSX-101A/R |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

**COT-41D/0*5**

| SYSTEM MODEL | |
|---|---|
| Aquilion ONE | TSX-306A/1-3 |
| | TSX-305A/1-6 |
| | TSX-301C/1-8 |
| | TSX-301A/2, /4 |
| Aquilion | TSX-301B |
| Aquilion Precision | TSX-304A/1-4 |
| Aquilion Prime SP | TSX-303B/1, /4, /5, /6, /8, /9 |
| Aquilion PRIME | TSX-303A/1, /2, /5, /A, /B, /F, /L, /M, /T |
| | TSX-302A/1, /2 |
| Aquilion Serve | TSX-307A/1, /2 |
| Aquilion Exceed LB | TSX-202A/1-3 |
| Aquilion | TSX-101A/Q, /T |
| | TSX-101A/S |
| | TSX-201A/2, /3 |
| | TSX-101A/R, /U |
| Aquilion Lightning | TSX-036A/1, /4, /7 |
| | TSX-035A/2, /4, /5, /7, /8 |
| Aquilion Start | TSX-037A/1, /2 |
| Alexion | TSX-034A |
| | TSX-032A |
| | TSX-033A |

Note: Some systems may not be available in your country or region. Please check with your sales representative.

## FEATURES

- CT system indicates that the selected data has been stored correctly helping to avoid unintentional image deletion.
- The efficiency of image file operations at the CT system can be improved.
- This software employs a fail-safe method to prevent image data from being deleted unintentionally even in the event of a communication failure (during image transfer or during a storage verification response).

## COMPOSITION

**COT-41D/2, /3**

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

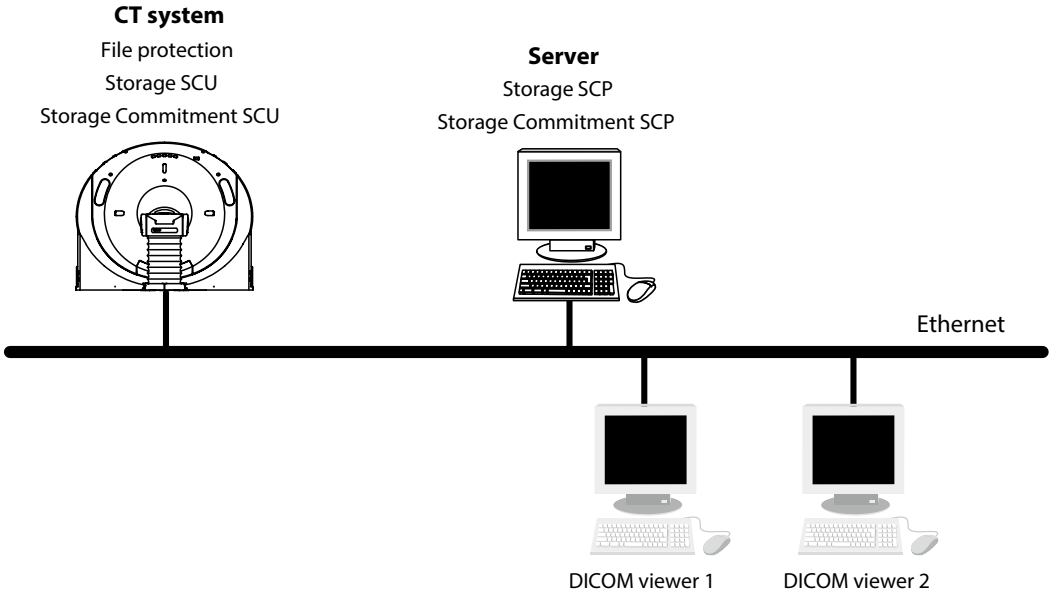
**COT-41D/0*5**

- License Sheet ..... 1
- Manuals ..... 1 set

Note: The Ethernet cables for connection to the CT system are not included in this kit.

*1: V2.03 or later
*2: V3.20 or later
*3: V3.10 or later
*4: V3.34 or later
*5: Depends on region

## CONNECTION




## PERFORMANCE SPECIFICATIONS

- Image transfer/S-Commitment request transfer/File protection
  Images are transferred to the server from the CT system using the DICOM Storage SCU function, which is a standard function of the CT system. Images can be transferred automatically or manually by the user. After image transfer, the CT system sends the S-Commitment request to the server.
  The "W" mark (file protection mark) and "T" mark (transfer completion mark) are added to the transferred image files in the file control directory. Note that it is not possible to delete image files with the "W" mark.
- Commitment result reception/Release of file protection
  If there are no abnormalities in the commitment result received by the CT system from the server, the file protection is released for the corresponding image files and the "W" mark in the file control directory is changed to "C" for these files. Note that it is possible to delete image files with the "C" mark.

## APPLICABLE STANDARD

- This software conforms with the DICOM standard PS3-2004.

## RESTRICTIONS

For the compatibility of the server, refer to the DICOM conformance statements of the system and server. Be sure to refer to the conformance statements for the currently installed software versions.

## MASS

- Mass: 0.1 kg (0.2 lb)

## POWER REQUIREMENTS

Power is supplied from the CT system.

## AMBIENT CONDITIONS

Same as those for the CT system.

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