

SCENARIO View

Datasheet Ph3.1

Delivers a superb view. See for yourself.



1. Introduction	4
2. Main Features	4
2.1 Low Dose and High Image Quality	4
2.2 High Speed / Easy to Use	5
2.3 Comfortable/Friendly Design	5
3. Dose Control and Management	6
3.1 Intelli IP	6
3.2 IntelliEC Plus (Automatic Exposure Control)	6
3.3 Pediatric protocols	6
3.4 CT Dose check (NEMA XR-25)	6
3.5 Simple Dose Report	6
3.6 DICOM Dose Structured Report (Dose SR)	6
4. Components	6
4.1 Gantry	6
4.2 High Voltage Generator / X-ray Tube	8
4.3 Patient Table	8
4.4 Detector	9
4.5 Operator's Console	9
4.6 DICOM	10
4.7 Accessories	10
5. Scanning Performance	11
5.1 Scanogram	11
5.2 Normal Scan	11
5.3 Volume Scan	12
5.4 Dynamic Scan	12
5.5 Preview Scan	12
5.6 ECG Prospective Scan	12
6. Image Performance Specification	12
6.1 Spatial Resolution	12
6.2 Noise	12
6.3 Low Contrast Resolution	12
6.4 MTF (X-Y axis)	12
6.5 MTF (Z axis)	12

7. Clinical Enhancements 13

7.1 Predict Scan 13

7.2 HiMAR 13

7.3 HiMAR Plus 13

7.4 MPR Spine Mode 13

7.5 Orbital Synchronized Scan 13

7.6 CORE Plus 13

7.7 Injector Synchronization 13

7.8 Shuttle Scan 13

7.9 Dual Energy Scan 13

7.10 guideShot 13

7.11 CardioConductor 13

7.12 CardioHarmony 13

7.13 IntelliEC Cardiac 14

7.14 IntelliCenter 14

7.15 AutoPose 14

7.16 Pointer series, etc. 14

7.17 Hyper Q-Net V(*Option) 14

8. Site Planning 15

8.1 Power and Grounding Requirements 15

8.2 Environmental Requirements 15

8.3 Outside Dimension and Mass 15

8.4 Dimensions of System Units 16

8.5 Example of Installation Layout 17

1. Introduction

SCENARIO View is premier model within Fujifilm's X ray-CT which have best balance with **High Quality Image and Low Dose Scan**. The features of SCENARIO View are described below. For low dose diagnosis, SCENARIO View has Next-generation adaptive iterative dose reduction" Intelli IPV". Furthermore, SCENARIO View changes the Gantry bore size to **800mm**. That's wide bore can provide a comfortable inspection environment. And we reviewed the inspection procedure, SCENARIO View improves the workflow.

Fujifilm's CT continues its evolution for all doctors, operators and patients. Driving you ahead with SCENARIO View.

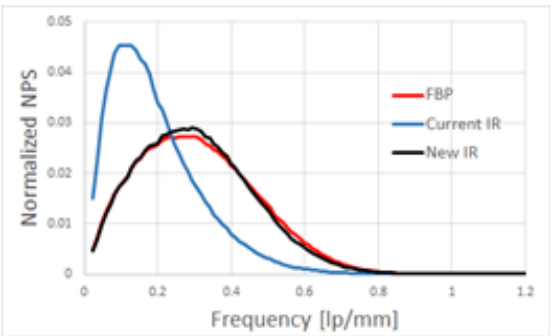


2. Main Features

2.1. Low Dose and High Image Quality

2.1.1. Intelli IPV

Fujifilm's next-generation adaptive iterative dose reduction function Intelli IPV (Iterative Progressive reconstruction with Visual modeling) does not require a dedicated processing room or any additional hardware. Even at a high noise-reduction rate the image quality (texture) is maintained and images with outstanding clarity are provided, even at low dose.



Intelli IPV not only reduces noise but also brings physical properties affecting visibility close to FBP.

- Image noise reduction up to 90%
- Dose reduction up to 83% compared to FBP
- Low contrast detection performance up to 200% compared to FBP

FBP (Filter Back Projection)



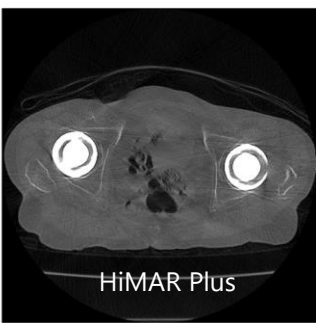
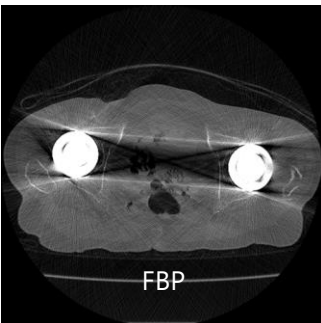
Intelli IPV



- ☒ Noise Reduction
- ☒ Visibility

2.1.2 HiMAR Plus

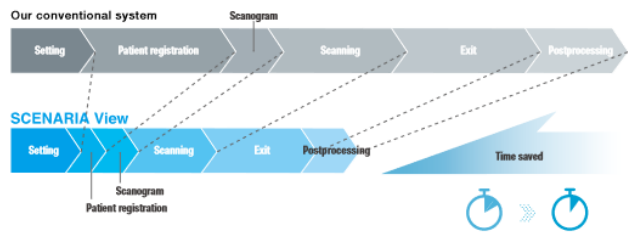
HiMAR Plus(High Quality Metal Artifact Reduction) uses Fujifilm's proprietary algorithms for estimating and correcting artifacts based on metal data.



2.2. High Speed / Easy to Use

2.2.1. Visualization of the procedures

We aimed to reduce examination time by segmenting and optimizing the flow of imaging procedures. We shortened operational procedures to ease operator workload, by applying functions such as Quick Entry and AutoPose(7.1.5).

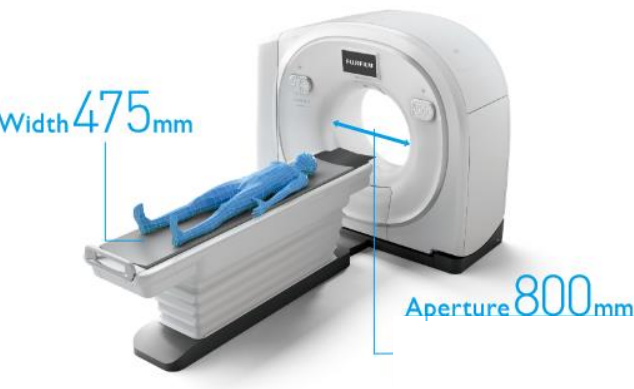


2.3. Comfortable/Friendly Design

For patients who undergo regular scanning and to reduce anxiety in small children, a scanning space which is friendly to both the operator and patient has been realized.

2.3.1. Improved flexibility at the scan plane with a spacious aperture of 80 cm

In addition to the wide aperture, the opening has been given a smoother, streamlined shape to enhance accessibility to patients. Even though the aperture has been widened, the gantry remains compact.



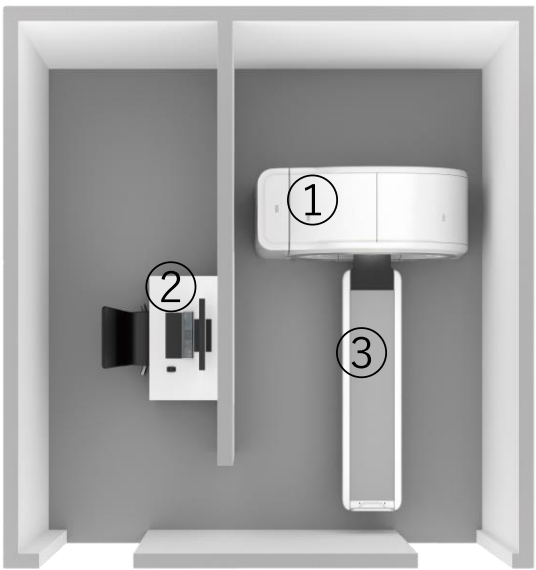
2.3.2. Lateral slide table function with movement of 20 cm

Since the table moves instead of the patient, it is less stressful for both the patient and operator. As the table is able to move up to 20 cm, it can be used not only for the positioning the chest for cardiac scans but also for the shoulders and other body parts in orthopedic examinations.



2.3.3. 3-unit configuration with excellent installability

A true 3-unit configuration consisting of the gantry, table, and operating table is achieved. It can effectively utilize the space of the CT room because this system does not require any system transformers or separate units.



3. Dose Control and Management

3.1. Intelli IP Advanced

Intelli IP Advanced is Fujifilm's Iterative reconstruction engine featuring more sophisticated algorithms to perform advanced iterative reconstruction processing in both Projection and Image Space.

3.2. IntelliEC Plus (Automatic Exposure Control)

Automatic 3D mA modulation to ensure x-ray dose efficiency and consistent image quality throughout the exam, compensating for patient anatomy and size and considering the level of iterative reconstruction selected. mA modulation is based on maintaining stable noise Standard Deviation (SD mode).

3.3. Pediatric protocols

SCENARIO View includes a comprehensive library of adult and pediatric reference protocols that are the basis to begin scanning with the system and can be amended to add protocols meeting specific clinical requirements. SCENARIO View default protocols are optimized to provide diagnostic image quality following ALARA (As Low as Reasonably Achievable) principles.

3.4. CT Dose check

Notifies the operator during exam protocol set-up when reference radiation dose levels will be exceeded based on predetermined reference dose levels recommended by The AAPM and/or that can be selected by your facility. This Dose Check monitoring meets the 2010 Standard (XR-25) published by The Medical Imaging & Technology Alliance (MITA).

3.5. Simple Dose Report

Provides dose reporting information as a secondary capture in DICOM image format making it easily accessible to locate whenever and wherever the image series is reviewed.

3.6. DICOM Dose Structured Report (Dose SR)

Creates DICOM Standard format dose report for each SCENARIO View patient examination and enables export of the reports to your PACS system and/or to dose registries.

4. Components

4.1. Gantry

4.1.1. Gantry

- (1) Rotation drive mechanism
Continuous rotation system Belt drive)
- (2) Rotation time
 - Normal scan mode: : 0.35, 0.4, 0.5, 0.75, 1.0, 2.0s/rot
 - ECG scan mode : 0.35, 0.4, 0.5s/rot
- (3) View rate
 - Scan : 2,880view/s

Rotation time (s)	0.35	0.4	0.5	0.75	1.0	2.0
Number of views for measurement (view/rotation)	1,008	1,152	1,440	2,160	2,880	5,760

- Scanogram : 2,000view/s

- (4) Gantry aperture : 800mm

- (5) Maximum effective FOV
 - Transverse-direction : 500mm
 - Body axis-direction : 1,750mm without Extended tabletop
2,000mm with Extended tabletop

- (6) X-ray beam width
 - Scanogram :

Beam width (mm)	5.0
Collimation	0.625 x 8

- Normal scan :

Beam width (mm)	1.25	5.0	10	20	40
Collimation	0.625 x 2	0.625 x 8	0.625 x 16	0.625 x 32	0.625 x 64

(Note : 15 mm beam width is abolished in SCENARIO View)

- Volume scan :

Beam width (mm)	20	40
Collimation	0.625 x 32	0.625 x 64

- (7) Focus switching
 - Small focus : Collimation 1.25, 5mm
 - Large focus : Collimation 10, 20, 40mm
 - Large and Small focus are selectable by user manually, but the combination that can select small focus is as follows

Beam width (mm)	1.25	5.0	10	20	40
80kV	-	-	-	-	✓
100kV	-	✓	✓	✓	✓
120kV	✓	✓	✓	✓	✓
140kV	-	✓	✓	✓	✓

(8) Gantry Tilt
± 30 ° (0.5 ° step)

- (9) Laser localizer
- Mounted at the Median line, horizontal position, slice position and P.SET
 - Lighting automatically by the tabletop position (Lighting position is changeable by service engineer)
 - Auto extinction approx. 5 min. after lighting
- (10) X-ray focus shift compensation mechanism
Collimator shift mechanism
- (11) X-ray beam correction filter
Copper filter
- (12) Dose compensation filter (Bow-tie filter)
①Bow-tie filter(Standard) : Minimum~FULL FOV (500mm)
②Bow-tie filter(Small) : < FOV 240mm
(Automatic ON/OFF)
- (13) Total filtration : More than 3mmAl (5.8mmAl)
- (14) Gantry center height : 1,000mm
- (15) Eco mode
①On-time Standby :
When system power is turned on, after 50 minutes from last scan and HU falls to 10% or less, On-time Standby operation starts and is canceled at scan preparation.
Power consumption reduction rate :
Maximum 48% (compared without On-time Standby)
②Off-time mode :
By setting the off-time mode when the system is stopped, it realizes silence while stopping and energy saving, and completes DMS warm-up at a predetermined time.
Power consumption reduction rate :
Maximum 60% (compared without Off-time mode)
- (16) Dynamic collimator
- Control the collimator blade at the start and end of X-ray irradiation according to the beam pitch and scan speed. It can be used with both volume scan and ECG volume scan (retrospective).

4.1.2. Control Panel on Gantry

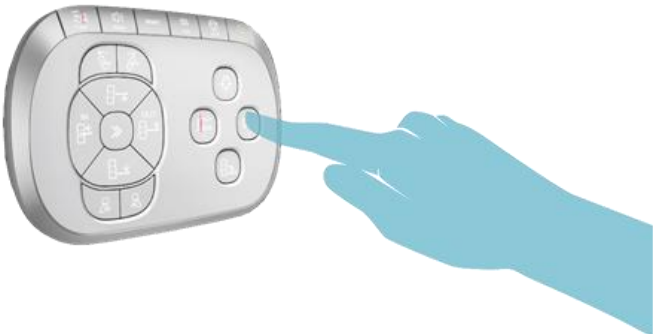


Touch Vision provides a comfortable scanning space for both patients and operators. The large monitor, positioned at the front of the gantry, ensures smoother scanning guidance to patients. 11 languages are used to support and breath holding timing can also be explained. It can display the following:

- Scanner gantry and bed status
- System status
- Patient information
- Inspection guidance (explanation and precautions regarding inspection)
- Demo breath (breathing, timing of breath holding, which can also be used to children (infant) with animation)
- Connection status of electrocardiograph and injector
- ECG waveform
- Indication of how to cancel abnormal state (table overrun, emergency stop, touch switch stop)

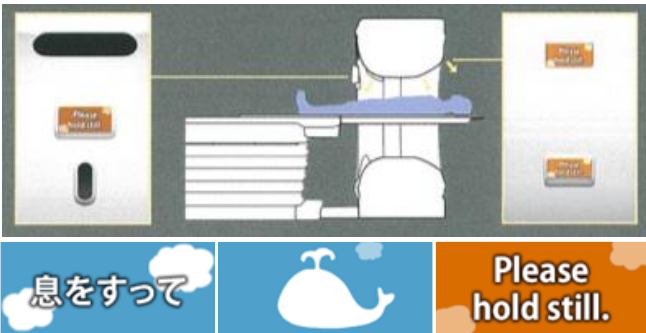
Operation buttons are installed on both sides of the monitor to enable easy access to the operators without the need of stretch.

4.1.3. Central Control Panel with Enhanced Accessibility



The central control panel, which contains all the buttons needed for operating the machine, is designed with consideration of operational procedures, frequency of use and ergonomics. The system can be operated rapidly without taking the eyes off the patient.

4.1.4. Languages of Auto Voice (11 Languages)



Breath guide displays provide a clear view from the start to the end of the scan. Breath guide displays are installed in the three locations in the gantry to indicate the breath holding timing during the scan. These can be seen from any patient position. Patients are instructed using an 11-language character display and auto-voice. Japanese, English, Chinese, Korean, Russian, Spanish (Adult/Child), Portuguese, German, French, Italian, Arabic

4.2. High Voltage Generator / X-ray Tube

(1) Shape of beam

- Fan beam
- X direction : $\pm 25.2^\circ$
- Z direction : $\pm 2.1^\circ$

(2) X-ray generation

Continuous X-ray (High frequency inverter)

	X-ray tube MCS-7070HP(Standard)	X-ray tube MCS-7080 (*factory installed option)
Tube heat storage capacity	7.5MHU/Equivalent 45MHU*	
Heat dissipation rate	1,386kHU/min	
Cooling method	Oil to air	
X-ray tube focus size	Small Focus : 0.7 x 0.8mm Large Focus : 1.2 x 1.4mm	
Maximum tube current	72kW	84kW
Tube voltage	80, 100, 120, 140kV	
Tube current	10~600mA (5mA step)	10~700mA (5mA step)
Absorption efficiency	97-98% (at 120kV)	
Anode rotation speed	Low speed : 3000r/min High speed : 6000r/min	

*When Intelli IPV of 83% dose reduction is used

	80kV	100kV	120kV	140kV
MCS-7080 (84kW)	670mA	700mA	700mA	600mA
MCS-7070HP (72kW)	600mA	600mA	600mA	510mA

Focus size	Scan time	Tube current (mA)			
		80kV	100kV	120kV	140kV
Small	5-100s**	280	320	275	230
Large	5s	[670]* 600	[700]* 600	[700]* 600	[600]* 510
	10s	[670]* 600	[700]* 600	[660]* 600	[570]* 510
	20s	[670]* 600	[670]* 600	[600]* 600	[510]* 510
	30s	600	600	500	420
	40s	540	540	450	380
	50s	540	540	450	380
	60s	450	450	370	320
	70s	440	440	360	310
	80s	390	390	320	280
	90s	350	350	290	250
	100s	320	320	260	220

* The numbers in the bracket [] are the mA value for 84kW.

**Maximum tube current at small focus is the same value regardless of scan time.

(6) System start up & Warm-up time :
Approx. 4min

4.3. Patient Table

		Lateral Slide Patient Table (CT-WT-23) (*Option)	Patient Table (CT-WT-22)
Material of tabletop		Carbon fiber	
Table height (center of tabletop)		490~970mm ^{*1}	
Table width		650mm	
Tabletop width		475mm	
Table length		2,803mm	
Table weight		500kg	
Tabletop travel		2,110mm	
Side Slide		$\pm 100\text{mm}^{*4}$	-
Maximum scan range	Scanogram	1,750mm ^{*2}	
	Normal scan	1,750mm ^{*2}	
	Volume scan	1,700mm ^{*2} or more	
Table travel speed	[Up/Down]	High Speed: 40mm/s Low Speed: 20mm/s	High Speed(Up) : 35mm/s High Speed(Down) : 40mm/s Low Speed : 20mm/s
	[Tabletop travel]	High Speed:100mm/s standard (30 ~ 200mm/s, 10mm/s step) Low Speed: 5mm/s	
	[Lateral motion]	10mm/s (Auto-stop at center position)	
	[HOME/ PRESET]	200mm/s	
	[Scanogram]	100mm/s	
	[Scanning]	5~200mm/s	
Table travel accuracy		In/Out : $\pm 0.25\text{mm}$ Up/Down : $\pm 0.5\text{mm}$	
Maximum load		250kg ^{*3}	
Manual free float		Set switches on the left and right sides of the back of the bed	
Method of movement		Electrically motor driven	
Foot pedal controlling vertical movement		Both side of the table	

^{*1} Height in the center of the tabletop. Including the patient retracting handle behind the Patient table, the height is 594 to 1,074 mm

^{*2} 2,000mm when extended tabletop is used.

^{*3} 220kg when extended tabletop is used.

^{*4} It can move sideways while tilting the gantry. However, if the touch sensor is touched during scan, the exam will stop with an error.

4.4. Detector

- (1) Number of elements (output)
888ch x 64rows = 56,832elements

Slice direction	Channel direction
0.625mm x 64rows	888ch

- (3) Material of Detector (Solid-state detector)
Gadolinium series ceramic Scintillator
- (4) Geometry
- Standard Geometry
 - SOD (Focus ~ Rotation Center) : 612.3mm
 - SID (Focus ~ Detector) : 1,083.5mm

- (5) Detector lead equivalent :
3mmPb@120kV

- (6) Sampling frequency :
2.88kHz

- (7) Decay time of afterglow :
3μsec

- (8) Afterglow at 3μsec :
0.04%

4.5. Operator's Console

- (1) Main Unit
Scan PC and IRS PC are mounted in one Main unit.

	Scan PC	IRS PC
Function	Main computer for operator	Image reconstruction
OS	Windows 10	Linux
CPU	Intel processor (64 bit)	Intel processor
Magnetic Disk	2TB (System + Data)	3TB (Data)
Maximum storage capacity	600,000 images or more*1 (Image)	6,000 scans or more (Raw Data)
Optical drive	DVD drive (DVD-R, CD-R) (About 7,000images (4.7GB DVD))	—
Reconstruction Speed	FBP	—
	Intelli IP	—
	Intelli IPV	—

*1 3,000 patients and 30,000 images/patient or less)

- (2) Display Monitor Size
24-inch wide LCD

- (3) Display Matrix
1,920 × 1,200

- (4) Reconstruction Matrix
512 x 512

- (5) Display Gray Scale

- (6) Scan Protocol
- Default : 130 or more
 - User Setting : 3,000 or more

- (7) CT Number Display
- Window Level
- Standard : -2,000 ~ +4,000
 - Extended : -32,768 ~ +32,767
- Window Width
- Standard : 1 ~ 6,000
 - Extended : 1 ~ 32,767

- (8) Reconstruction Filter
- Standard : 33 types
 - High Resolution : 2 types
 - Performance evaluation : 1 type

- (9) Central image processing unit : Multi-processor system

- (10) Magnetic disk unit
- Image : over 2TB, over 600,000images
 - RawData : over 3TB, over 6,000scans

- (11) Archival storage
- DVD drive (CD-R, DVD-R)
 - About 7,000images (4.7GB DVD)

- (12) Image processing
- Window process :
- Window level / Width adjustment
 - Black/White contrast reversal
- Image display process :
- Multi frame display (up to 25 images)
 - Magnification (real-time, up to x9.99, etc.)
 - Image rotation
 - Pan
 - Data display
 - Edge enhancement/smoothing
- Image analysis process :
- Distance and angle measurement
 - Setting ROI (up to 8)
 - Scale display
 - Comment display
 - Save image
- MPR image display :
- MPR (AXL, SAG, COR)
 - Curved MPR
 - Multi slice MPR
 - Radial slice MPR
 - SPINE Mode MPR
 - MIP, MinIP, RaySum display*2
- 3D image display :
- Volume rendering
 - MIP, MinIP, RaySum display*2
 - Mask extraction and edit
 - Mask calculation
- CEV-CPR :
- Cruising Eye View (CEV)
 - CPR (Straight view, Natural view)
 - Cross-sectional area / diameter
 - CT color display of vessels

*2 MIP : Maximum Intensity Projection, MinIP : Minimum Intensity Projection

- (13) Intelli IPV

	BHC	Scan Type			
		Normal	Volume	ECG Retro.	ECG Prospe.
Head	ON	✓	✓		
Lung	OFF		✓		
Abdomin	OFF		✓		
Cardiac/Stent	OFF	✓	✓	✓	✓

4.6. DICOM

4.6.2. DICOM Transfer

This supports SCU (Service Class User) of CT Image Storage Service Class, Secondary Capture Image Storage Service Class, and X-Ray Radiation Dose SR Service Class. By using this Service Class, CT images, Secondary Capture Image, or X-ray Radiation Dose Structured Report can be transferred to the devices (usually PACS) supporting SCP (Service Class Provider). It is possible to transfer while scanning. Since scanning is prioritized over transfer processing, the DICOM transfer speed during scanning is slower than when it is not scanning. DICOM Print (filming) does not support transfer during shooting.

4.6.3. Storage Commitment

This supports SCU (Service Class User) of Storage Commitment Push Model Service Class. By using this Service Class, CT images can be committed for storage in the devices (usually PACS) supporting SCP (Service Class Provider).

4.6.4. Image Print

This supports SCU (Service Class User) of Basic Grayscale Print Management Meta SOP Class, Basic Color Print Management Meta SOP Class, Basic Annotation Box SOP Class. By using this Service Class, the film output can be transferred to the devices (usually Printer) supporting SCP (Service Class Provider).

4.6.5. DICOM Query/Retrieve

This supports SCUs (Service Class Users) of the Query/Retrieve Information Model service class. By using this service class, it is possible to search for or move images stored in devices (usually PACSs) that support SCPs (Service Class Providers).

4.6.6. DICOM MWM

This supports SCU (Service Class User) of Basic Worklist Management Service Class. By using this Service Class, worklist can be obtained from the devices (usually RIS) supporting SCP (Service Class Provider).

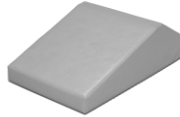
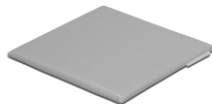
4.6.7. DICOM MPPS*Option

This supports SCU (Service Class User) of Modality Performed Procedure Step Service Class. By using this Service Class, status of examinations, scan data, radiation data, etc. can be transferred to the devices (usually RIS) supporting SCP (Service Class Provider).

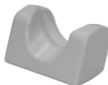
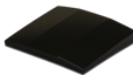
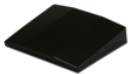
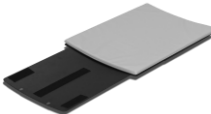
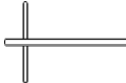
4.7. Accessories

4.7.2. Standard accessories

No.	Accessories	Appearance	Note
1	Patient Mat		#1, #2 and #3 shall be used together.
2	Immobilizing bands		
3	Flap with slide rails		

4	Head rest 1 (Flat type)		#4, #5 and #6 shall be used together.
5	Chin band 1		
6	Head band 1		
7	Triangle mattress		-
8	Foot mat		-
9	Arm rest 1 (for HF) *		#5, #6, #9, #10 and #20 shall be used together.
10	Head rest 2 (for Arm rest 1)		
11	Speaker		
12	Instruction Manuals		
13	DVD drive		It is a part of operator console.
14	24-inch LCD monitor		
15	Intercom		
16	Keyboard		
17	Mouse		
18	Breath-Navi display		They are located in three areas.
19	Foot switch		

4.7.3. Optional accessories

No.	Accessories	Appearance	Note
20	Chin rest (for Arm rest 1)		#5, #6, #9, #10 and #20 shall be used together.
21	Arm rest 2 (for FF) *		#4 and #21 shall be used together.
22	Spacer 1 (5 °)		#4, #22, #23, #24 and #25 shall be used together.
23	Spacer 2 (10 °)		
24	Chin band 2 (1,140mm)		#4, #22, #23, #24 and #25 shall be used together.
25	Head band 2 (1,120mm)		
26	Extended tabletop		- #26 and #27 shall be used together. *factory installed option
27	Foot mat (for Extended tabletop)		
28	IV drip pole		
29	Wrist band		#29 shall be used with #7 or #21 together.
30	Phantom for Quality Exam		
31	UPS for console		
32	External stands microphone		

5. Scanning Performance

5.1. Scanogram

(1) Scannable range
1,750mm

5.2. Normal Scan

(1) Rotation time
0.35, 0.4, 0.5, 0.75, 1.0, 2.0s/rot

(2) Slice thickness

Beam width (mm)		1.25	5	10	20	40
Collimation		0.625 x2	0.625 x8	0.625 x16	0.625 x32	0.625 x64
Slice mode Slice thickness	64i	-	-	-	-	0.625*
	32i	-	-	-	0.625*	1.25*
	16i	-	-	0.625*	1.25*	2.5
	8i	-	0.625*	1.25*	2.5	5
	4i	-	1.25*	2.5	5	10
	2i	0.625	2.5	5	10	-
	1i	1.25	5	10	-	-

※FineRecon is applied to 0.625/1.25mm slice thickness “*”
mark added in the table above
(e.g., 128 slices with 0.625mm thickness or 64 slices with
1.25mm thickness can be acquired by applying FineRecon
to 0.625mm × 64)

(3) Maximum Scan Time
100 scans

(4) Maximum Scannable Range
1,750mm(without Extended tabletop)
2,000mm(with Extended tabletop)

(5) FOV
20~500mm (1mm step)

(6) Scan Cycle
Minimum 2.0s @ 40mm table move

(7) FineRecon

Beam width	FineRecon OFF	->	FineRecon ON
40mm	0.625 x 64i	->	0.625 x 128i
	1.25 x 32i	->	1.25 x 64i
20mm	0.625 x 32i	->	0.625 x 64i
	1.25 x 16i	->	1.25 x 32i
10mm	0.625 x 16i	->	0.625 x 32i
	1.25 x 8i	->	1.25 x 16i
5mm	0.625 x 8i	->	0.625 x 16i
	1.25 x 4i	->	1.25 x 8i

· Applicable to Multi-recon and Post-recon (Not for 1st recon
during scan)

5.3. Volume (Helical) Scan

- (1) Rotation time
0.35, 0.4, 0.5, 0.75, 1.0s/rot
- (2) Maximum scan time
100 scans or 100 seconds (whichever is lower)
(max. 35seconds @ 0.35s/rot, max.50seconds @ 0.5s/rot,
max. 100seconds @1.0s/rot)
- (3) Maximum scan length
1,700mm or more (w/o Extended tabletop)
1,950mm* or more (w Extended tabletop)
- (4) FOV
20~500mm (1mm step)
- (5) Pitch – slice thickness

Beam Width			Slice thickness							
Beam Width	Beam Pitch	Table Speed mm/rot	Slice thickness							
			× 1	× 1.6	× 2	× 4	× 6	× 8	Image Add.	
20mm (0.625 x32)	0.594	11.875	0.625	1.0	1.25	2.5	3.75	5.0	7.5	10.0
	0.844	16.875								
	1.094	21.875								
	1.344	26.875								
	1.594	31.875								
40mm (0.625 x64)	0.578	23.125								
	0.828	33.125								
	1.078	43.125								
	1.328	53.125								
	1.578	63.125								

- (6) Reconstruction pitch
More than 0.625mm
- (7) Maximum image number
Maximum 3,000 images
- (8) AEC (Auto Exposure Control)
IntelliEC (SD Mode)
IntelliEC (CNR Mode)
IntelliEC Plus (Auto exposure control with IP Advanced)
- (9) Switching time from the Normal scan to the Volume scan :
4sec

5.4. Dynamic Scan

- (1) Rotation time
0.35, 0.4, 0.5, 0.75, 1.0, 2.0sec
- (2) Image slice thickness
0.625, 1.25, 2.5, 5.0, 10.0mm

5.5. Preview Scan

A function was added to minimize delay between sequences by displaying a preview image during volume scan and by performing actual reconstruction after the scan is completed.

5.6. ECG gating Scan

The ECG gating scan is a method to use ECG (Electrocardiogram) for scanning or reconstruction of images using the phase I which cardiac motion is less.

Retrospective ECG gating scan which volume-scans while acquiring ECG data and uses only raw data from the phase where motion is small after the scan and Prospective ECG gating which performs normal scans by irradiating X-rays after the designated delay time since detecting the R-wave while monitoring ECG are selectable. (with relative dedicated monitor for the ECG visualization)

6. Image Performance Specification

6.1. Spatial Resolution

0.35mm

[Measurement condition]
5mm(5mm×1i), 2s/rot, 120kV, 265mA, Small focus, F60H, FOV50mm
HHBU performance phantom spatial resolution section

6.2. Noise

8.69HU@18.7mGy (CTDIvol)

[Measurement condition]
10mm (10mm×2i), 0.5s/rot, 120kV, 400mA, Large focus, F32, FOV350mm
305mm water phantom, Body exam condition

6.3. Low Contrast Resolution

0.625%mm (2.5mm@0.25%)

[Measurement condition]
10mm (10mm×1i), 2s/rot, 120kV, 265mA, Large focus, F11, FOV160mm
HHBU Performance Phantom Low-contrast Section

6.4. MTF(X-Y axis)

17.2lp/cm (0%MTF) (Reference Value)

16.2lp/cm (2%MTF)

14.7lp/cm (10%MTF)

12.2lp/cm (50%MTF)

[Measurement condition]
10mm (10mm×1i), 2s/rot, 120kV, 275mA, Small focus, F60H, FOV50mm
HHBU QA Phantom Spatial Resolution Section

6.5. MTF(Z axis)

13.3lp/cm (0%MTF) (Reference Value)

[Measurement condition]
0.625mmx64, Volume scan, beam pitch 0.578, 120kV, 275mA, Small focus, F12, FOV50mm
Coin Phantom(Kyoto Kagaku)

7. Clinical Enhancements

7.1. Predict Scan

Predict scan monitors contrast uptake to a user-selectable threshold value and automatically initiates the scan for optimized image contrast at minimum radiation dose and reduced injected contrast volume.

7.2. HiMAR

HiMAR uses Fujifilm's proprietary algorithms for estimating and correcting artifacts based on metal data.

7.3. HiMAR Plus

HiMAR Plus is a combination of a projection base and an image base artifact reduction process. By using the calculation, which is applied by iterative reconstruction, the metal artifact caused by the rapid X-ray attenuation by the high absorber is reduced at the time of image reconstruction. Two strengths can be set to be applied in this function. In the strength setting, it is possible to set Standard with a small change in the structure and Strong with a strong artifact correction effect.

7.4. MPR Spine Mode

Regular MPR processing added with functions for enabling MPR display of the thoracic vertebral and lumbar vertebrae, so that scans can be carried out easily.

Reformatted cross-sections can be continuously set at any angle according to the vertebral body and intervertebral disc. Reformatted images can also be created and saved. The angle and position of the required reformatted cross-section can easily be set on the sagittal and coronal section.

7.5. Orbital Synchronized Scan

Orbital Synchronized scan is a function which controls the CT scanner so that it can scan in the same helical orbits. This, for instance, enables matching of the helical orbits in CT imaging before and after contrast radiography, which is expected to improve the accuracy of subtraction image.

7.6. CORE Pus

The CORE (Cone-beam Reconstruction) method optimizes the range of acquired data used for reconstruction per pixel. By using the whole range of the detector efficiently, more data can become usable compared to the Feldkamp method. Streak artifacts, which tend to be generated from the costal bone in high pitch scanning and motion artifacts caused by the movement of the intestinal tract can be reduced resulting in good quality images.

7.7. Injector Synchronization

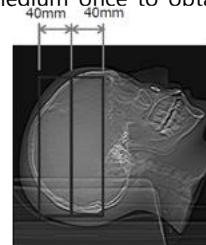
Injector synchronization is a function to start CT scans synchronized with the start of a contrast media injection from the injector. Connecting the injector to the CT system facilitates simultaneous start of scans and contrast injection, which ensures imaging conditions with appropriate contrast. In addition, the operator's workload is reduced since the scan start can be controlled only by the operation at the injector side.

Compatible CT Injectors for SCENARIO View are below.

- (1) MEDRAD Stellant CT Injection System D with Certegra Workstation (Bayer Medical Care Inc.)
- (2) MEDRAD Salient Dual (Imaxeon Pty Ltd.)
- (3) MEDRAD Centargo CT Injection System (Bayer Medical Care Inc.)
- (4) DUAL SHOT alpha7 (Nemoto Kyorindo co., Ltd.)
※Injector connection cable also necessary.
- (5) CT motion (ulrich GmbH & Co.KG)

7.8. Shuttle Scan

Shuttle Scan is an optional function that quickly moves the table between two adjacent radiography areas each 40 mm in width. This function allows you to perform scans at a fixed interval of 3.2 seconds on a radiography area measuring 80mm wide. This is twice the width of the radiography area covered by the standard dynamic scan function. This also means that by using Shuttle Scan to perform a head perfusion CT scan, you only need to inject the patient with the contrast medium once to obtain data for an area 80 mm wide.



7.9. Dual Energy Scan

Dual Energy Scan is an optional function that performs normal scans while switching the tube voltage. This function allows you to reconstruct images scanned by using two types of energy (tube voltage) in the same position within the scan range.

In addition, this function also allows you to transfer images to your workstation and analyze them so that you can use the differences in X-ray absorption rates to materials to distinguish tissues and improve the image quality.

7.10. guideShot

guideShot is a function that supports IVR(CT-IVR) biopsy with the CT system. With the guideShot function, the physician can perform a biopsy procedure on the patient while observing the CT images displayed on the monitor in the scanner room. guideShot CT Imaging mode enables scanning of 3 contiguous slices to be controlled and displayed in the gantry room at table side. Guide Shot is used for interventional needle guidance by a physician for biopsy or targeted injection. guideShot is a "snapshot" imaging mode that reduces radiation dose to the patient and physician vs. a higher dose continuous CT Fluoro mode. guideShot provides selection of 2 table movement speeds for fine positioning or faster movement.

7.11. CardioConductor

CardioConductor is the function which automatically set the recommendation scan condition by using the range of heart rate during the breath-holding practice. Breath-holding practice can be conducted from both the console and the scanner monitors (Touch Vision). The setting of scan condition is selectable from "Auto", which puts weight on simple scanning or "Manual" which enables to customize condition, depending on various scan situations.

7.12. CardioHarmony

The moving level is extracted based on images created per phase for the whole heart. System will search the minimum movement phase in the heartbeat and propose the optimal reconstruction phase. The time for searching optimal phase, which has been the bottle neck for the workflow of cardiac CT, can be dramatically reduced within one minute at a minimum.

7.13. IntelliEC Cardiac

IntelliEC Cardiac modulates the tube current under retrospective scanning based on the phase of cardiac cycle. With this function, scanning can be done with optimized dose during diastole and with a low dose during systole. Therefore, as compared to a cardiac scan with consistent amount of dose, a lowered dose can be achieved. Dose modulation can be set up to 2 phases and the maximum dose can be set for each of them.

7.14. IntelliCenter

Improvement of spatial resolution using the lateral slide table

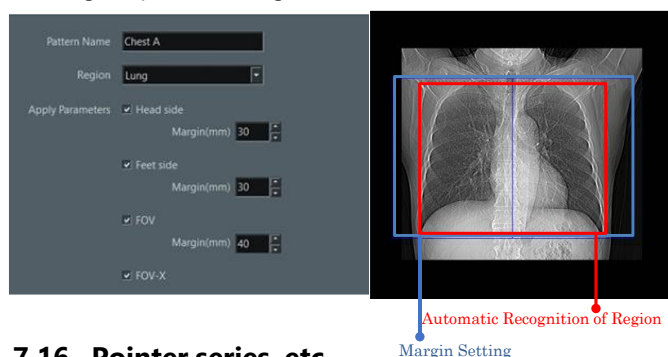
SCENARIO View enables the lateral slide mechanism which has enhanced flexibility in the lateral direction of the table. By positioning the scanning region in the center of rotation, spatial resolution is expected to be improved.

Less exposure at cardiac study (*evaluation report by Monte Carlo simulation)

A Cardiac Bow-tie Filter (X-ray compensation filter) is equipped as a standard. As this enables narrower X-ray beam than the filter for the body, by using it together with the table lateral slide mechanism, exposure can be reduced by about 1/4 for whole area (Inside and outside of the FOV) and about 1/3 for outside the FOV.

7.15. AutoPose

AutoPose is a function which automatically set the scan range by recognizing the lung and head imaging range of scanograms image. Technologists can also set the margin range on the four directions to up-down and left-right, as a result it's possible to use customer's conventional scanning method. It can preset the radiologists' preferred range.



7.16. Pointer series, etc.

fatPointer (*Option)

Analyzes the region of CT number corresponding to fat in the abdomen. It calculates the area of CT number equivalent to visceral and subcutaneous fat from the abdomen CT image. Area detection and diversion which takes time in conventional software can be done by only ONE click.

riskPointer (LAA analysis) (*Option) (*Must purchase Hyper-Q Net V)

The Low Attenuation Area of the lung field is automatically extracted and displayed in color. It is the software to calculate a ratio (%LAA) of low attenuation area to the lung field based on CT images of lung field by the threshold value processing method. Conventionally, LAA was visually evaluated. However, this software allows analysis of LAA by simple operation and provides information for quantitative evaluation.

(1) Objective quantitative evaluation

- LAA can be quantitatively evaluated.
- By using volume scan data covering the entire lung field, volumes of the entire lung field and LAA can be obtained.

(2) Possible evaluation of a given region

- Upper/middle/lower lung fields can be covered as a

quantitative evaluation region of LAA.

(3) Simple operation

- The lung field and LAA are automatically recognized.
- The automatically recognized result can be manually corrected.

(4) Display and saving of analysis results

- As the LAA region of a CT image is displayed in color, explanation to the patient can be effectively provided.
- Colored images and analysis result can be saved into file in BITMAP format or JPEG format.
- The measured values can be saved in Text file (CSV format).
- * A CSV format file can be displayed and edited by commercially available spreadsheet software.

(5) Support for reporting

- An examination result report to be given to patient can be easily created.
- The report comparing the previous examination results and the present examination results can also be created.

Calcium Scoring(*Option)(*Must purchase Hyper-Q Net V)

Calcium Scoring helps to extract calcified regions in the coronary artery and calculate the calcium score (value indicating the degree of calcification). The following items are included in the analysis results:

- Artery : Name of the coronary artery for the allocation region
- Regions : Number of allocation regions
- Volume [mm³] : Total volume of allocation regions (rounded to two decimal places)
- MaxCT : Maximum CT value
- MeanCT : Mean CT value
- Agatston Score : Agatston score (rounded to two decimal places)
- Volume Score : Volume score (rounded to two decimal places)
- Total :
 - Number of allocation regions (total value#)
 - Volume (total value#)
 - Agatston score (total value#)
 - Volume score (total value#)
 - #Total value before rounding the value of each region (rounded to two decimal places)
 - Maximum CT value (of all allocation regions)
 - Mean CT value (of all allocation regions)
- Details : Detailed region name of the allocation region

Note: This software uses analytical processing based on threshold values to mechanically calculate and analyze calcified regions. The software itself cannot determine whether the analyzed region is the correct calcified region, thus we cannot guarantee the validity of the analysis results that are output.

7.17. Hyper Q-Net V(*Option)

Hyper Q-Net V is a general term of the system connecting a personal computer (hereinafter referred to as PC) installed besides the Whole-Body X-ray CT System SCENARIO View with the LAN. Hyper Q-Net V transmits images automatically from CT system to the PC to display and analyze the images by means of the image viewer (Hyper Q-Net V) on the PC. Also, when multiple PCs are connected, image can be displayed and analyzed on each PC.

Hyper Q-Net V has the same image display/analysis function as the viewer on the main system - SCENARIO View. Hyper Q-Net V provides only software; therefore, PC shall be prepared by users in order to install this software. Installation is performed by service engineer of Fujifilm or our authorized service representative.

8. Site Planning

8.1. Power and Grounding Requirements

8.1.1 Power Condition

- (1) Main voltage
3 phase 380VAC/400VAC
(In case that the power supply voltage at site is not 380/400VAC, or in case of delta connection, use the system transformer with the specification)
- (2) Frequency
50/60Hz

8.1.2. Power Supply Facility

- (1) Power supply capacity
100kVA
- (2) Power Supply Load Regulation
5% or less
- (3) Mains voltage fluctuation
 $\pm 10\%$ or less

8.1.3. Grounding resistance

C – class grounding (10 Ω or less)

8.2. Environmental Requirements

8.2.1. Environmental Conditions

Room	Unit	Heat dissipation W(kcal/h) *1	Temperature (°C)	Humidity (%RH)	Atmospheric pressure, and altitude
Scanner room	Scanner	4,100	20~28 *3	35~80	700~1,060hPa Below 3,000m
	Patient table	(3,525)	[-5~33]*2		
Operation room	Operator console	380 (327)	10~28 [-5~33]*2		

*1 Calculation base of heat dissipation (in air)

- Number of scans : 240 scans/hour
- X-ray parameters : 120kV, 400mA, 0.5sec, 40scans with continuous.

*2 Temperature in () shows the condition while the equipment is not in use subject to no condensing in any room.

*3 Room temperature variation in the scanner room during diagnosis must be within the range of the "center temperature $\pm 2^{\circ}$ C".

*4 In the service environment, the concentration of corrosive gas must be 0.1PPM or less and salt damage must be 0.02mg/cm² or less. And, use it in installation environment more than JEITA IT - 1004 class B.

8.2.2. Environmental Conditions of storage and transportation

- (1) Ambient temperature (° C)
-10~55° C
- (2) Relative humidity
 - 10~90%RH (no condensing)
 - However, 10 to 55% should be 55 ° C. or less, 56 to 75% to 50 ° C. or less, 76 to 85% to 45 ° C. or less, 86 to 90% to 40 ° C. or less, all without dew condensation.
- (3) Temperature
700~1,060hPa

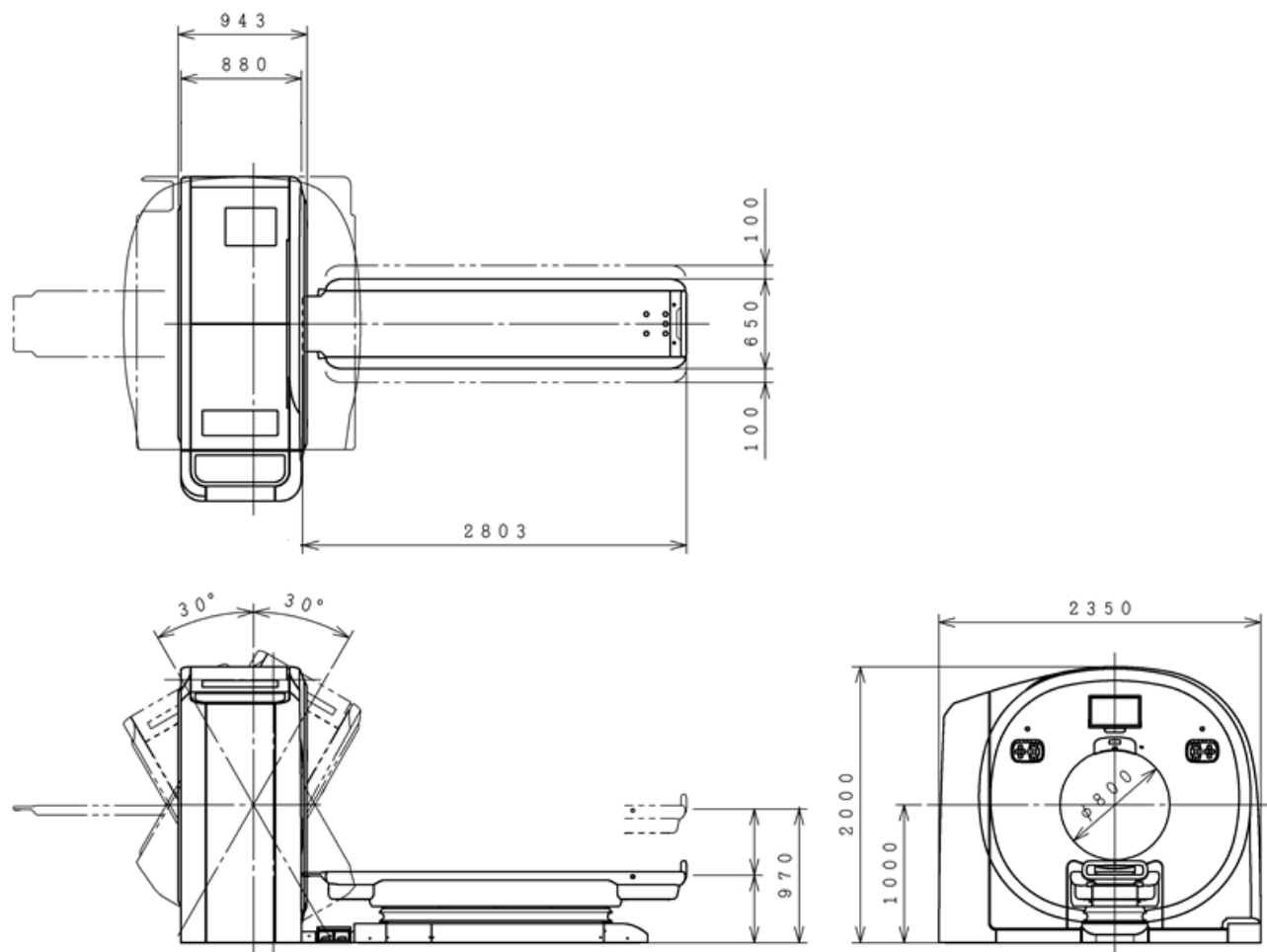
8.3. Outside Dimension and Mass

Unit	Physical dimensions (mm)			Mass (kg)
	Width	Depth	Height	
Scanner	2,350	943	2,000	2,220
Patient table [CT-WT-23]	650	2,803	490~970*1	500
Operator's console				
Main unit	421	745	606	73.4
Monitor	575	245	409~553.7	8.7
Keyboard	441	149	19.5	0.55
Intercom box	460	90	57	1

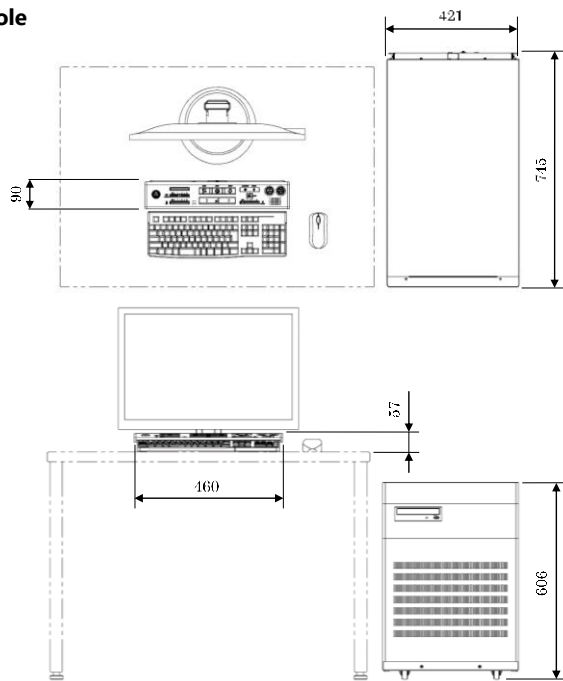
*1: Height in the center of the tabletop. Including the patient retracting handle behind the Patient table, the height is 594 to 1,074 mm

8.4. Dimensions of System Units

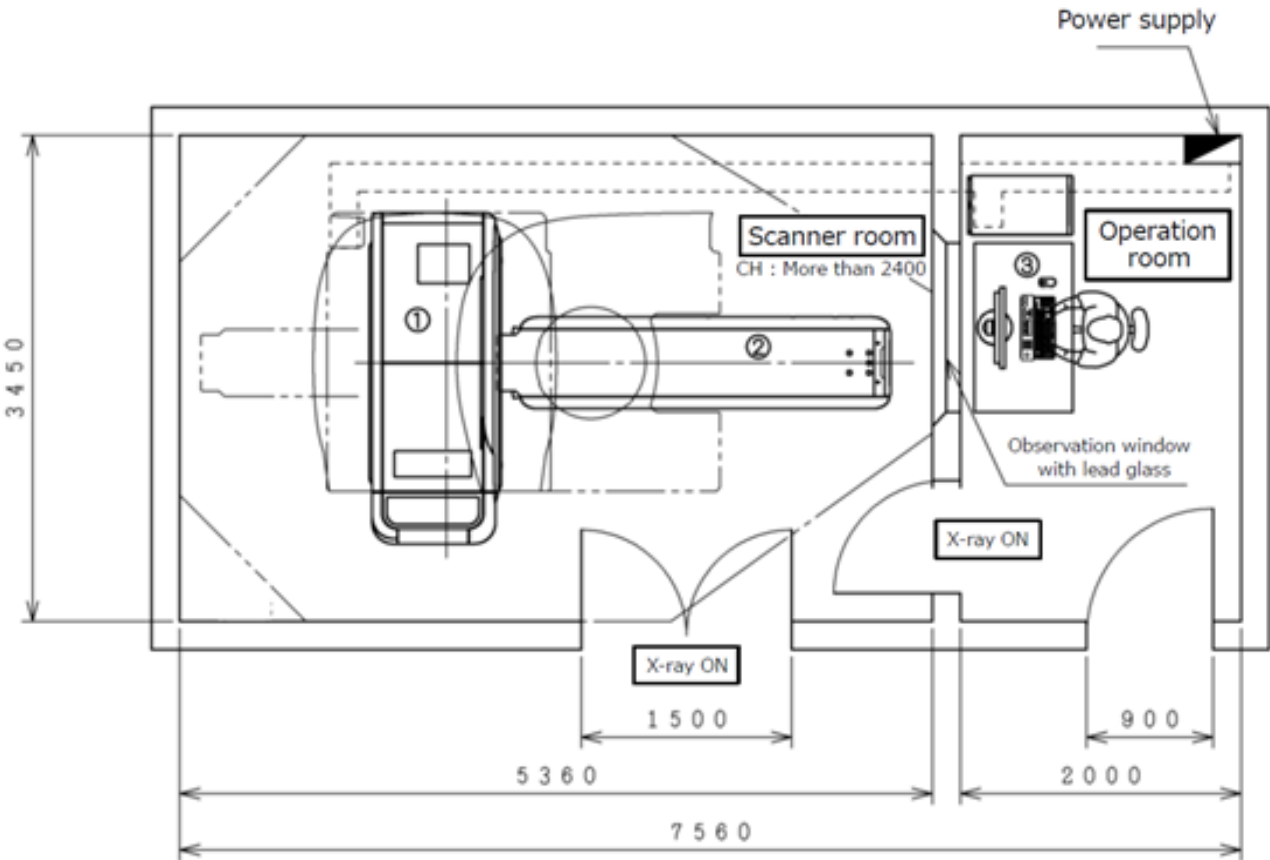
8.4.1 Scanner gantry



8.4.2. Operator's console



8.5. Example of Installation Layout



No.	Unit	Mass (kg)	Power requirements
1	Scanner gantry	2,220	3-phase 400/380V, 100kVA Power supply load regulation : Within 5% C – class grounding (10Ω or less)
2	Patient table	500	
3	Operator's console (Main unit)	73.4	W1,200 × H600mm (Lead equivalent: 2mmPb) Window center height : FL + 1,250mm

Air-condition requirements

Room	Heat dissipation W (kcal/h)	Temperature range (not in use)	Humidity range
Scanner room	4,100 (3,525)	20~28°C (-5~33°C)	35~80%RH
Operation room	380 (327)	10~28°C (-5~33°C)	

Specifications and physical appearance may be changed without prior notice.

"SCENARIO", "SCENARIO View", "IntelliEC", "Intelli IP", "IntelliCenter", "CardioConductor", "CardioHarmony", "Cruising Eye View", "CEV", "guideShot", "fatPointer", "riskPointer", "Hyper Q-Net", "HiMAR" are the registered trademarks or trademarks of FUJIFILM Healthcare Corporation in Japan and other countries.

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