

**SHIMADZU**

# PRODUCT DATA

---

Digital  
Table  
System**SONIALVISION *safire II***  
(ZS-100I/DAR-8000f/UD150B-40)

## GENERAL

SONIALVISION safire is a digital table system that is designed with the concept of multi-purpose, patient care, exceptional image quality and workflow optimization. The following various applications are easily performed;

- Digital fluoroscopy
- Digital spot/serial imaging
- Digital Subtraction Angiography
- Vascular/Non-vascular Interventional procedures
- Endoscopy procedures
- Orthopedics
- Tomography
- Chest radiography
- Slot radiography
- Dual Energy Subtraction

**SYSTEM CONPNORNENTS**

X-ray digital table	ZS-100I
Digital imaging system	DAR-8000f
X-ray high voltage generator	UD150B-40 (80kW)
X-ray tube assembly	0.4/0.7JG326D-265AT (750kHU)
X-ray tube starter	SA-61

**CONFIGURATION**

**STANDARD CONFIGURATION**

- (1) Table body assembly 1 set  
This unit consists mainly of a body frame, an X-ray tube supporting tower, a FPD supporting base, and a tabletop. Fluoroscopy/radiography can be performed at an optimum position, with adjusting elevation, tilting, and lateral movement of the tabletop, longitudinal movement of the imaging unit, and oblique projection of X-ray beam.
- (2) X-ray beam collimator  
The X-ray beam collimator controls an exposure field automatically to suit fluoroscopy/radiography.
- (3) Compression cone unit  
The compression cone is a cylindrical part to press a region of a patient in fluoroscopy/radiography. Two types of different shaped head portion "flat type" and "protrusive type" are available as standard.
- (4) System control console  
This console operates the table system. Local and/or remote types are selectable.

- (5) Control cabinet  
This box controls the table system by communication. The cabinet includes cables to connect each component such as the table main body, the control console, and X-ray high voltage generator.
- (6) Accessories
  - Foot rest
  - Shoulder rest
  - Hand grips
  - Upper part hand grips
  - Barium cup holder
  - Soft mattress
- (7) Digital radiography system 1 set
  - Control Cabinet
  - Transformer Unit
  - Direct Conversion FPD Unit
  - Standard Accessory (Keyboard, Mouse)
  - Media Storage Device (Incorporated in Control Cabinet)
  - DICOM Print Software
  - Pulse Fluoroscopy Software
  - PC Selector
  - Remote Maintenance PC
- (8) X-ray high voltage generator 1 set
  - Control console
  - Control cabinet
  - High voltage generator (Incorporated in the control cabinet)
  - Connection cable  
Cable length;
    - \* Power source-Control cabinet: 10 m (USA and CANADA: 16m)
    - \* Control console-Control cabinet: 14 m

**OPTIONAL ITEM**

- Compression band
- Power transformer, XAT-2H
- Phototimer
- Photo pick up
- Cystographic chair
- Knee clutches
- Drain bag
- Endoscope holder
- 500 lb weight option
- Voltage regulator for UD150B-40
- Monitor (\*1)
- Monitor cart
- DSA software
- RSM-DSA software
- Side station
- Tomosynthesis software
- Slot Radiography software
- Dual-Energy Subtraction software
- DICOM image storage software
- DICOM modality worklist (MWM) software
- DICOM modality performed procedure step (MPPS) software
- (\*1) Selectable from the following:
  - 17" CRT (normal type),
  - 17" CRT (high brightness type),
  - LCD monitor
- SUREngine software

## FEATURES

### DEDICATED SYSTEM FOR DIGITAL IMAGING

- (1) Equipped with a direct conversion FPD with a 17" x 17" wide view field.  
The direct conversion method, where X-ray input signals are directly converted to electric signals, produces ultra-high-definition images.
- (2) The image is processed and stored at the original quality of the matrix (max. 2880 x 2880 matrix) at the time of the capture.
- (3) Clear fluoroscopy images and sharp radiography images are provided by diversified image processing, including noise reduction, edge enhancement and Auto Image Optimization (AIO).
- (4) Acquired images are saved on a high-speed image disk in real-time, and can be displayed immediately after acquisition is finished. Up to 10,000 frames (1440 x 1440 matrix) can be saved on a single disk. Previous data can be retrieved easily because data is managed for each individual patient.
- (5) Because the menu on the monitor can be operated via a mouse and a keyboard, it is possible to operate the system intuitively and easily.
- (6) User-friendly GUI (Graphical User Interface) operation protocol is adopted to DAR-8000f.
- (7) Images can be saved in DICOM format to a DVD-R or CD-R as long-term storage files. The images can be saved on a small-sized media at a reasonable price. This media is both economical and portable.

- (8) This system is compatible with DICOM3.0, providing a smooth connection to the hospital network. This compatibility includes DICOM print, Media storage, DICOM storage (option) and MWM/MPPS (option).
- (9) SUREngine option is our real-time image-processing engine that improves the visibility of small targets and other devices in IVR/IVH procedures, while maintaining the high-speed real-time characteristic of fluoroscopy.
- (10) Side Station option allows parallel processing, such as image observation, printout, transfer, and recording to DVD-R (CD-R), during examinations.

### EASY AND EFFICIENT TABLE FUNCTIONS

- (1) An integrated system console;  
The highest operability is achieved by integrating Table and Digital imaging system controls into one system console with a LCD. It enables the operator pay more attention to patient or procedure than to the system itself.
- (2) Tabletop elevation feature contributes to provide comfortable working height for various applications and lower height for elder patients;  
Optimum height of the tabletop can be obtained for endoscopy and interventional procedures. Moreover the tabletop elevation helps elder patient in stepping on and off the table.
- (3) The compact design provides larger working space;  
Sonialvision has no useless space than regular R/F table. The rear side of the table is extremely simple and small. It is very easy to approach to the patient around the table. And only 10 cm is required between the table and the rear wall, so it will give more space in the room after replacing with the existing table.
- (4) Wide coverage without moving the patient;  
The wide longitudinal sliding range of the imaging system with large tabletop provides head to toe coverage without moving the patient.

**FEATURES (cont.)****X-RAY HIGH VOLTAGE  
GENERATOR**

- (5) Digital Tomography capability;  
The table permits tomographic imaging at any tilting angles. Thoracic imaging can be accomplished not only in horizontal positioning but also in vertical form for chest pleural effusion diagnosis.
  - (6) Pelvic radiography;  
Steep X-ray incidence angles greatly help the imaging of pelvic examinations at the max.  $\pm 40^\circ$  angles required viewing the pelvic inlet or outlet.
  - (7) Chest radiography capability;  
Chest radiography is possible with the table vertical and X-ray tube unit extended to 1.5 m FFD.
  - (8) Stretcher and wall bucky applications;  
The tube head can rotate 90/180 degree at vertical position for each stretcher and wall bucky applications with height adjusting switch provided at the tube head.
  - (9) The tabletop can be easily maintained clean;  
The tabletop is a complete flat design without any projection or depression, and prevents blood or bodily fluid from penetrating into it.
- (1) The high frequency inverter system adopted for high voltage generation, generates low ripple tube voltage with high X-ray quantum efficiency. Moreover, by cutting off X-rays regardless of power phase, it is possible to perform high-accuracy photo-timer control in the ultra-short time.
  - (2) To enhance the ergonomic design of the UD150B-40, a microcomputer is utilized for the improvement of operability and safety.
  - (3) Exposure time and mAs can be set more in detail in every 12.5% than the conventional.
  - (4) X-ray conditions can be changed easily using hybrid dials. Large changes can be made using jog/shuttle and small changes can be made precisely using the up/down buttons. Using both types of adjustment method allows conditions to be set quickly.
  - (5) In addition to the ordinary setting system of KV, mA, and sec., technique conditions can be also set with 2-factors of kV and mAs. In this case, mA and sec. are automatically set to the maximum allowable value and the shortest value.
  - (6) Two standard fluoroscopic modes are provided. Each mode is customised to meet the requirements of clinical application.
  - (7) Tube voltage is automatically controlled even if a radiographic area or subject thickness is changed during fluoroscopy. The image brightness stabilizer (IBS) always ensures a fluoroscopic image with optimum brightness.

**SPECIFICATIONS (ZS-100I)**

Item		Content	
Table top	Size	76.5 × 235 cm (flat type)	
	Lateral movement	Range	25 cm
		Speed	5.0 cm/sec max.
	Table tilting	Range	+89° to -89°
		Speed	15 sec/90°, soft start and soft stop 17 sec/90°, soft start and soft stop *1
	Elevation (at horizontal position)	Table height	47 - 110cm
		Allowance load weight	204 kg (450 lb)
227 kg (500 lb) (in all operations, the system combined 500 lb weight option.) 318 kg (700 lb) (patient is stationary and lying horizontal.)			
X-ray beam absorption ratio	0.61 mm Al eq. at 80kV / 0.67 mm Al eq. at 100kV		
Imaging unit	Longitudinal movement	Range	155 cm
		Speed	15 cm/sec max. (continuously variable)
	Distance between X-ray focus and FPD (FFD)	110, 120, 150 cm	
	Distance between X-ray beam axis and floor surface at vertical position	57 - 212 cm	
Oblique angle of X-ray beam projection	Max. 40 degrees (caudal-cranial) Max. 40 degrees (cranial-caudal)		
X-ray exposure field	Field collimation	Automatic field collimation (possible to select manual mode)	
	Fluoroscopic maximum field	Rectangular field corresponding to FPD	
	Radiographic maximum field	Corresponding with selected FOV	
	Rotary mechanism of exposure field (option)	The automatic X-ray collimator itself can be manually rotated by ± 45°.	
Radiography	Grid Type	452 mm × 482 mm (oscillating), Ratio: 12, Density: N 50 cm <sup>-1</sup> , Focusing distance: 120 cm, Intermediate material: Fiber	

Notes \*1; In case of the system combined 500 lb weight option, the speed of tilting is 17 sec/90 degrees.

**SPECIFICATIONS (ZS-100I) (cont.)**

Item		Content	
tomography	Movement	Linear	
	Exposure range	FFD: 110 cm, Possible at any tilting angle from + 89° to - 89°	
	Exposure angle	8°, 20°, 30°, 40°	
	Speed	Max. 40°/1.5 sec	
	Layer height	0 mm – 250 mm on the tabletop	
	Layer height automatic shift	0 mm, 5 mm, 10 mm, 15 mm, 20 mm	
Slot Radiography	Mode	High quality mode	Slot width: 2 cm, composite width: 1 cm on both sides
		High speed mode	Slot width: 4 cm, composite width: 1 cm on both sides
	Exposure range	140 cm (Longitudinal)	
	Positioning	Possible at any tilting angle SID: 150 cm (standing and supine position) SID: less than 120 cm (other position)	
	Longitudinal movement speed of Imaging unit	High quality mode	7.5 cm/sec.
		High speed mode	15 cm/sec.
Acquisition rate	3.75 f/sec.		
Items related to installation	Ceiling height needed for installation	Minimum: 255 cm	
		Recommended: 285 cm or more	
	Operation/maintenance weight	Approximately 1400 kg	

**SPECIFICATIONS (DAR-8000f)**

Item		Content	
Applications Covered	Digital Radiography	Gastrointestinal, myelography, urology and others	
	Interventional Radiology	IVP, ERCP, PTC etc.	
	Digital tomography	Digital tomography, digital tomosynthesis (option)	
	Digital Subtraction Angiography (option)	Real-time DSA (Abdominal, Peripheral), RSM-DSA	
System Operation	Simple Windows <sup>R</sup> -Based Operability	The menu on the monitor can be operated directly using the mouse and the keyboard.	
Image Input	X-ray Detector	Direct-conversion FPD (Flat Panel Detector)	
	X-ray Conversion Material	a-Se	
	Pixel Pitch	150 μm	
	Resolution	3.3 lp/mm	
	View Field Size	43 x 43 cm	
	Matrix	Max. 2880 x 2880	
	Dynamic Range	14 bits	
	Frame Rate	30 fps	
Image Acquisition / Real-Time Processing	Fluoroscopy	Matrix	1024 x 1024 matrix, 12 bits
		Pulse Fluoroscopy	Pulse Rate: 30/15/7.5/3.75 fps
		Fluoroscopy Image Storage	Direct store / LIH store / Loop store Up to 100 frames per run (Ex. 7.5 fps images are memories for 13 sec.)
		MAP Fluoroscopy (option)	Fluoroscopy image is superimposed on the previously acquired fluoroscopy image. Requires DSA option.
		SUREngine (option)	High-speed real-time image processing engine - Real-time multi frequency processing - Real-time flexible noise reduction - Real-time grid pattern removal
	Radiography	Processing and Recording Matrix	<Original matrix mode (Normal mode) > 2880 x 2880 (1440 x 1440) matrix, 12 bits (View field: 43 x 43 cm) 2560 x 2560 (1280 x 1280) matrix, 12 bits (View field: 38 x 38 cm) 2048 x 2048 (1024 x 1024) matrix, 12 bits (View field: 30 x 30 cm) 1536 x 1536 (768 x 768) matrix, 12 bits (View field: 23 x 23 cm)
		SPOT Acquisition	Single Acquisition
		Multi-frame imaging	2 or 4 images split horizontally / vertically
		Serial Acquisition	Frames rate: 17": Max 15 frames/sec (1440 x 1440 matrix, 12 bits) 15": Max 15 frames/sec (1280 x 1280 matrix, 12 bits) 12": Max 15 frames/sec (1024 x 1024 matrix, 12 bits) 9": Max 15 frames/sec (768 x 768 matrix, 12 bits)
		DSA Acquisition (option)	Real time subtraction at 7.5 frames/sec (max.) Real-time DSA, Landmarking
RSM-DSA Acquisition (option)	Real-time smoothed mask digital subtraction		
Fixed-Plane Tomography	Digital tomography using R/F table.		
Tomosynthesis (option)	Reconstructs image of arbitrary tomographic plane from acquired images. Requires use of Side Station option.		
Slot Radiography (option)	Parallel movement of the imaging chain and FPD unit with a slit collimated X-ray exposure can produce a longitudinal radiographic image. Requires use of Side station option.		
Dual-Energy Subtraction (option)	Energy subtraction between high and low voltage images enables separate display of soft tissue and bone images. Requires use of Side station option.		

**SPECIFICATIONS (DAR-8000f) (cont.)**

Item		Content
Image Recording	Hard Disk	Up to 80 GB: 2880 x 2880 (1440 x 1440) matrix, 4000 images (10000 images) 2560 x 2560 (1280 x 1280) matrix, 4000 images (10000 images) 2048 x 2048 (1024 x 1024) matrix, 7500 images (10000 images) 1536 x 1536 (768 x 768) matrix, 10000 images (10000 images)
	CD-R	700 MB: 300 images (1024 x 1024 matrix) (DICOM Media format)
	DVD-R	4.7 GB: 2000 images (1024 x 1024 matrix) (DICOM Media format)
Image Processing	Gray Scale Processing	Adjustment of brightness and contrast, black-white inversion, Auto Image Optimization (AIO)
	Correction	Selection of up to 10 kinds of non-linear contrast conversion curves
	Edge Enhancement	13 x 13 template filter processing
	Noise Reduction Filter Processing	Recursive processing
	H/V Inversion	Horizontal or vertical direction inversion
	Zoom	x2
	Multiple Image Display	Multiple-image display (2 x 2 or 4 x 4)
	Annotation	Overlays display text and figure on the image
	Re-masking (option)	By selecting arbitrarily a mask image again, a new subtraction image can be created. Requires DSA option.
	Re-registration (option)	By moving arbitrarily a mask image, perform subtraction. Requires DSA option.
	Post processing RSM-DSA (option)	Enhances visualization of the high-frequency component. Requires DSA option.
	Stacking (option)	Hold Peak value for pixel of multi-frames. Requires DSA option.
Landmarking (option)	Creates and displays a live image of DSA radiography. Requires DSA option.	
Reference Image Display (option)	Displays reference image on reference monitor.	
Measurement Processing	Distance Measurement	Measures the distance on the image
	Angle Measurement	Measures the angle on the image
	Stenosis Analysis (option)	Analyzes the vessel stenosis. Requires DSA option.
DICOM Communication	Output to Laser Imager	Compatible with DICOM print (Allows output to DICOM Laser Imager)
	Media Output	DVD-R or CD-R (DICOM format)
	Output to Image Server (option)	Compatible with DICOM storage (Allows output to DICOM image server) Format is "RF" or "XA"
	DICOM Modality Worklist (MWM) (option)	Receives study information from the server
	DICOM Modality performed procedure step (MPPS) (option)	Sends study results to server
	Side Station (option)	The side station enables the use of the DICOM-compatible viewing system to allow DR image observation; processing, printout and server transfer to be performed during examinations. It also enables the use of the tomosynthesis feature that reconstructs images of any arbitrary plane, slot radiography and dual energy subtraction.
Maintenance	Remote Maintenance	Operate the unit from a remote location, and perform maintenance work

**SPECIFICATIONS (DAR-8000f) (cont.)**

Item		Content
Side Station (option)	Tomographic Reconstruction	Tomographic Angle: 40 ° ,30 ° ,20 ° ,8 ° Tomographic Time: 5 sec.(74 frames), 2.5 sec. (37 frames) Reconstruction Area:0 - 250 mm Reconstruction Pitch:0.5,1,2,3,5,10,15,20,25 mm Reconstruction Matirix:1024 × 1024
	Slot Radiography	Reconstruction parameter: auto-configured by acquisition parameter Measurement: distance, angle, Cobb angle Printing: Film-size fitting print, Life-size split print (Possible to correct to life-size)
	Image Processing	<ul style="list-style-type: none"> <li>• W/L , , Edge Enhancement</li> <li>• Flip (vertical/ horizontal), invert black/ white</li> <li>• Free enlargement / reduction</li> <li>• Multiple image display for 2×2/4×4</li> <li>• Distance / angle measurement</li> <li>• Scale display</li> <li>• Annotation display</li> </ul>
	DICOM	<ul style="list-style-type: none"> <li>• DICOM printing</li> <li>• DICOM image storage</li> <li>• DICOM Media storage</li> </ul>

**SPECIFICATIONS (UD150B-40)**

Nominal maximum power		80 kW
Ratings	Power Source	380-480 V, 3 phase 50/60 Hz
	Short-time rating	150 kV 500 mA 125 kV 630 mA 100 kV 800 mA 80 kV 1000 mA
	Long-time rating	75 kV 20 mA 125 kV 12 mA
Tube voltage and X-ray exposure time control system		The DC voltage rectified and smoothed from 3-phase or single-phase power source is applied to the inverter circuit. Tube voltage is controlled by the feedback system, and at the same time, applied to the X-ray tube, making and breaking it. The exposure is made and broken regardless of the supply voltage phase.
Technique factor setting system	2-control system (kV, mAs)	A system that the shortest exposure time and maximum tube current are automatically set for sec and mA according to the allowable load of the X-ray tube when kV and mAs are set as the technique factors.
	3-control system (kV, mA, sec.)	A system to set kV, mA, and sec as technique factors.
Setting and display of radiographic tube voltage	Setting range	40 to 150 kV in increment of 1 kV.
	Display	The set value is displayed digitally.
	Setting method	Shuttle and UP/DOWN switch.
Setting and display of radiographic tube current time product (in the case of 2-control system)	Setting range	0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80, 90, 100, 110, 125, 140, 160, 180, 200, 220, 250, 280, 320, 360, 400, 450, 500, 560, 630, 710, 800 mAs  Setting is available in 64 positions shown above. The value is limited to 500 mAs when using photo-timer.
	Display	The set value is displayed digitally.
	Setting method	Shuttle and UP/DOWN switch
Setting and display of radiographic tube current (for 3-control system)	Setting range	1000, 800, 630, 500, 400, 320, 250, 200, 160, 125, 100, 80, 63, 50, 40, 32, 25, 20, 16, 12 and 10 mA  Of the 21 positions above, it is possible to use any 6 positions allowed by the X-ray tube for one focus.
	Display	The set value is displayed digitally.
	Setting method	Shuttle and UP/DOWN switch
Setting and display of exposure time (in the case of 3-control system)	Setting range	1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 5.6, 6.3, 7.1, 8.0, 9.0, 10, 11, 12, 14, 16, 18, 20, 22, 25, 28, 32, 36, 40, 45, 50, 56, 63, 71, 80 ms, 90 ms,  0.10, 0.11, 0.12, 0.14, 0.16, 0.18, 0.20, 0.22, 0.25, 0.28, 0.32, 0.40, 0.45, 0.50, 0.56, 0.63, 0.71, 0.80, 0.90, 1.0, 1.1, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.5, 2.8, 3.2, 3.6, 4.0, 4.5, 5.0, 6.3, 7.1, 8.0, 9.0, 10 sec  It is impossible to set the mAs value to less 0.5 or over 800.
	Display	The set value is displayed digitally.
	Setting method	Shuttle and UP/DOWN switch.
Setting and display of fluoroscopic tube voltage	Setting range	50~125kV in increment of 1kV.
	Display	The set value is displayed digitally.

**SPECIFICATIONS (UD150B-40) (cont.)**

Setting and display of fluoroscopic tube current	Setting range	Fluoroscopic tube current is automatically set according to fluoroscopic tube voltage. Presetting is already made so that the fluoroscopic tube current value rises as the fluoroscopic tube voltage rises.																																	
	Display	Digital display of actual value during radiation of X-ray																																	
Accumulated fluoroscopic time display		Display range ... 0.0~99 min																																	
Display of error		In the occurrence of error on each function, error-codes are displayed on the color LCD touch panel.																																	
POWER REQUIREMENTS	3-phase alternating current	Frequency	50 or 60 Hz																																
		Standard voltage and allowable voltage range at no load and power source impedance	380 V ± 10%, 0.10 Ω or less 400 V ± 10%, 0.11 Ω or less 415 V ± 10%, 0.12 Ω or less 440 V ± 10%, 0.13 Ω or less 480 V ± 10%, 0.16 Ω or less																																
		Switch at hand	Type Capacity	Molded case circuit breaker 75 A or less																															
		Relations between the length and sectional area of lead-in conductor with respect to the transformer capacity	<table border="1"> <thead> <tr> <th rowspan="2">Length Transformer Capacity</th> <th colspan="10">Wire Size (Nominal Sectional Area) mm<sup>2</sup></th> </tr> <tr> <th>10 m or less</th> <th>20 m</th> <th>30 m</th> <th>40 m</th> <th>50 m</th> <th>60 m</th> <th>70 m</th> <th>80 m</th> <th>90 m</th> <th>100 m</th> </tr> </thead> <tbody> <tr> <td>75 kVA (3-phase)</td> <td>5.5</td> <td>8</td> <td>14</td> <td>22</td> <td>22</td> <td>22</td> <td>38</td> <td>38</td> <td>38</td> <td>38</td> </tr> </tbody> </table>	Length Transformer Capacity	Wire Size (Nominal Sectional Area) mm <sup>2</sup>										10 m or less	20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m	75 kVA (3-phase)	5.5	8	14	22	22	22	38	38	38	38
		Length Transformer Capacity	Wire Size (Nominal Sectional Area) mm <sup>2</sup>																																
	10 m or less		20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m																								
	75 kVA (3-phase)	5.5	8	14	22	22	22	38	38	38	38																								
	Frequency	50 or 60 Hz																																	
	3-phase alternating current (Optional auto transformer is necessary.)	Standard voltage and allowable voltage range at no load and power source impedance	200 V ± 10%, 0.054 Ω or less 220 V ± 10%, 0.054 Ω or less 240 V ± 10%, 0.054 Ω or less																																
		Switch at hand	Type Capacity	Knife switch and fuse or molded case circuit breaker 100 A or less																															
Relation between the length and sectional area of lead-in conductor with respect to the transformer capacity (in case of conduit)		<table border="1"> <thead> <tr> <th rowspan="2">Length Transformer Capacity</th> <th colspan="10">Wire Size (Nominal Sectional Area) mm<sup>2</sup></th> </tr> <tr> <th>10 m or less</th> <th>20 m</th> <th>30 m</th> <th>40 m</th> <th>50 m</th> <th>60 m</th> <th>70 m</th> <th>80 m</th> <th>90 m</th> <th>100 m</th> </tr> </thead> <tbody> <tr> <td>75 kVA (3-phase)</td> <td>14</td> <td>22</td> <td>38</td> <td>38</td> <td>60</td> <td>60</td> <td>60</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table>	Length Transformer Capacity	Wire Size (Nominal Sectional Area) mm <sup>2</sup>										10 m or less	20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m	75 kVA (3-phase)	14	22	38	38	60	60	60	100	100	100	
Length Transformer Capacity		Wire Size (Nominal Sectional Area) mm <sup>2</sup>																																	
		10 m or less	20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m																								
75 kVA (3-phase)	14	22	38	38	60	60	60	100	100	100																									
Frequency	50 or 60 Hz																																		
Standard voltage and allowable voltage range at no load and power source impedance	200 V ± 10%, 0.054 Ω or less 220 V ± 10%, 0.054 Ω or less 240 V ± 10%, 0.054 Ω or less																																		

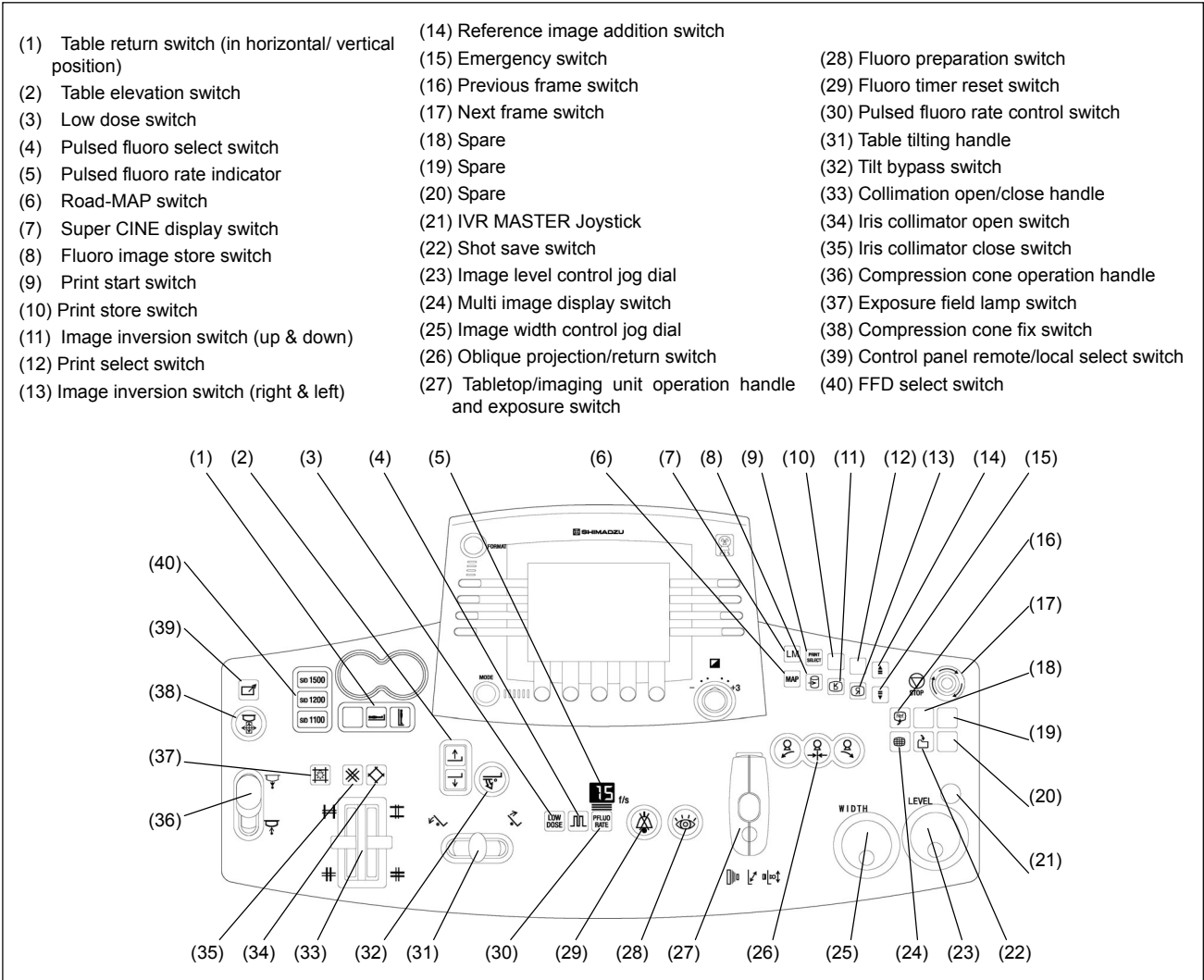
**AMBIENT CONDITIONS**

	Temperature	Humidity
Examination room	20-27°C	15-75% (No condensation)
Operators room	10-30°C	15-75% (No condensation)

**POWER REQUIREMENTS**

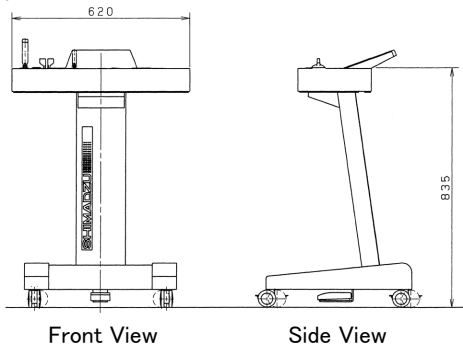
Unit	Rating	Voltage	24 hr continuous energizing	
ZS-100I	3 kVA	3-phase 200V or 3-phase 400V	No	
	(0.5 kVA)	(Single-phase 100V) Supplied from UD150B-40	No	
UD150B-40	75 kVA	3-phase 200V (200/220/240) or 3-phase 400V (380/400/415/440/480)	No	
DAR-8000f	DAR-8000f cabinet	1.8 kVA	Single-phase 200V Supplied from DAR-8000f Transformer Box	No
	Monitor	-	Supplied from DAR-8000f Transformer Box	No
PSU rack 2	X-ray tube-related power supply ( SA61 )	5 kVA	Single-phase 200V (200/208/220/230/240)	No
	X-ray tube-related power source ( SGC-10 )	-	Supplied from UD150B-40	No
	FPD-related power source ( DC power supply, UPS )	3 kVA	Single-phase 200V (200/220/230/240)	Required
PCU (Panel Control Unit)	-	Supplied from PSU2 UPS	Required	
Sub cabinet	FPD-related ( FPD body, HV power supply )	-	Supplied from PSU2 UPS and DC power source	Required
	FPD cooler	-	Supplied from PSU2 FPD-related power supply	Required
	Tube Heat Exchanger	-	(Single-phase 100V) Supplied from starter (SA-61)	No
MPC Maintenance PC	-	Supplied from DAR-8000f Transformer Box	Required	
Side Station (option)	(0.2 kVA)	Supplied from DAR-8000f Transformer Box	No	

**CONTROL PANEL (ZS-100I)**

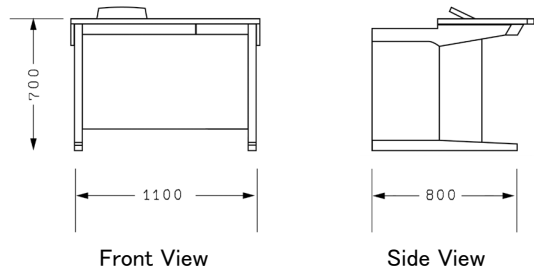


**DIMENSIONS (ZS-100I)**

Local system control console

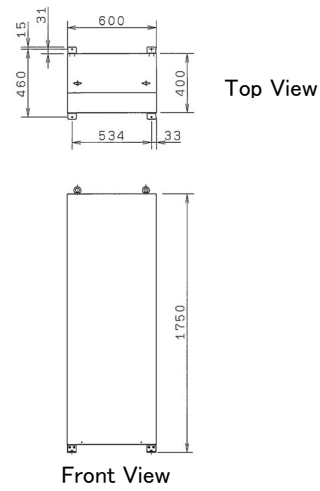
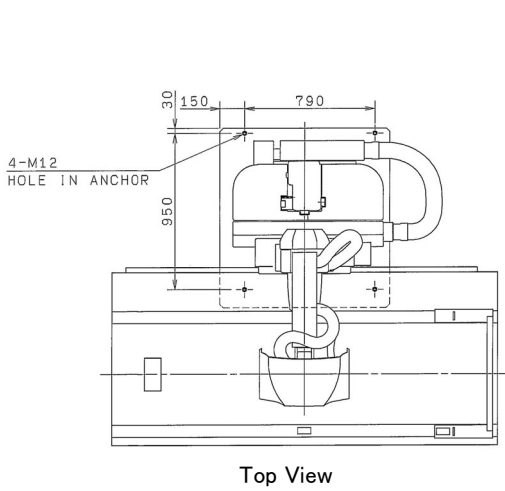


Remote system control console

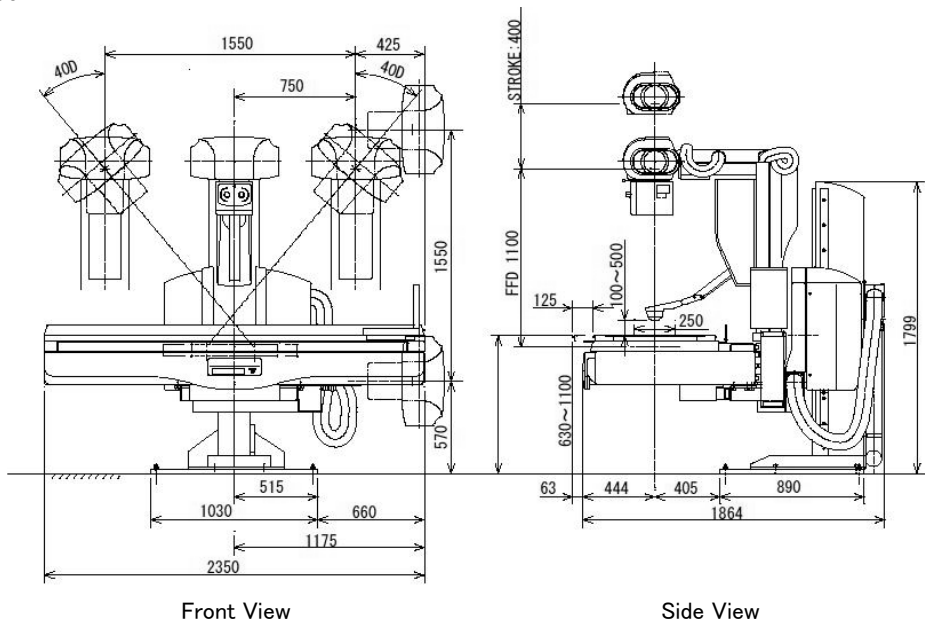


ZS-100I

Control box



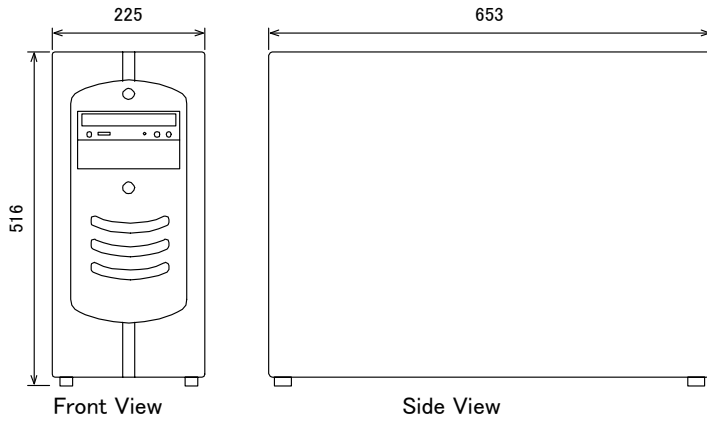
ZS-100I



Unit : mm

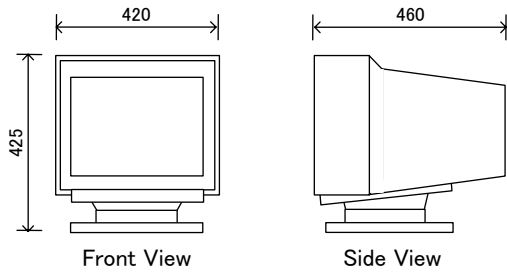
**DIMENSIONS (DAR-8000f)**

Control Cabinet

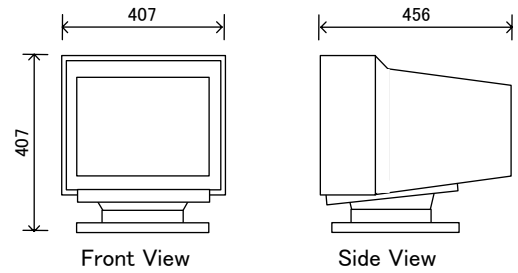


Monitor (Option)

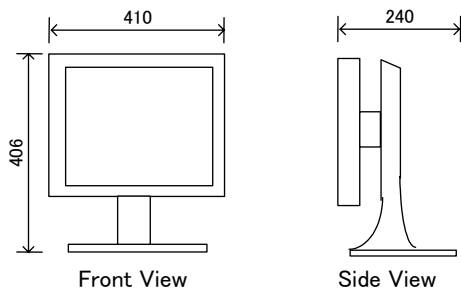
17" CRT Monitor (Standard Type)



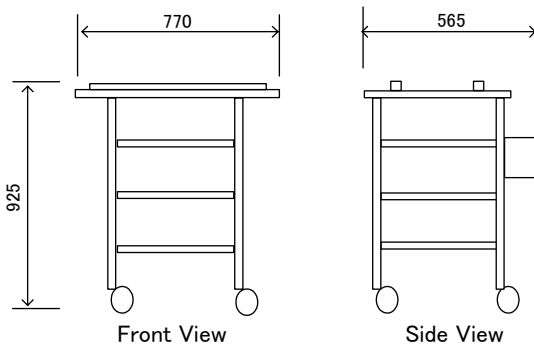
17" CRT Monitor (High Contrast Type)



LCD Monitor



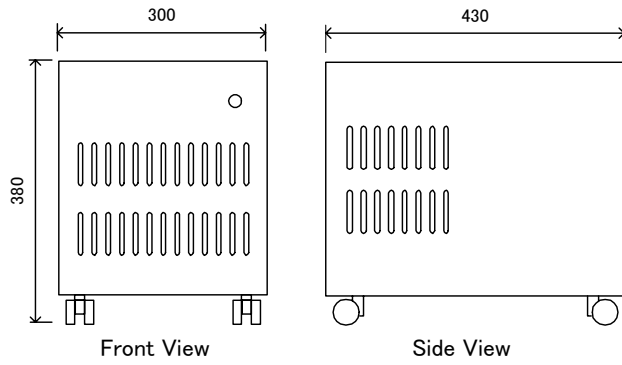
Monitor Cart



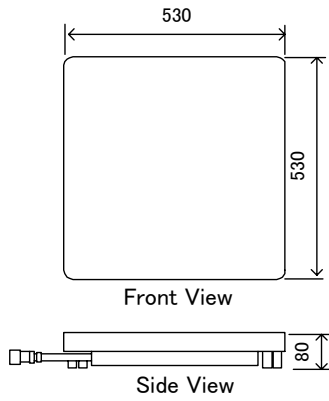
Unit : mm

**DIMENSIONS (DAR-8000f) (cont.)**

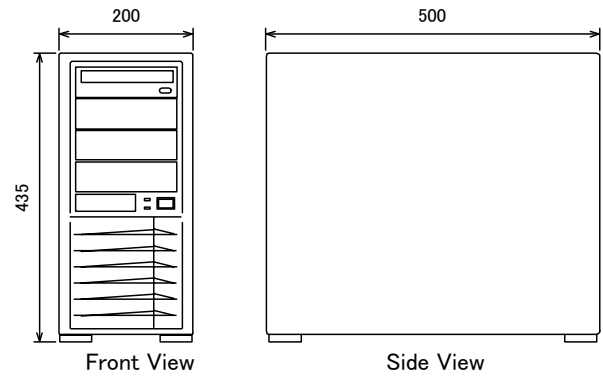
Transformer Box



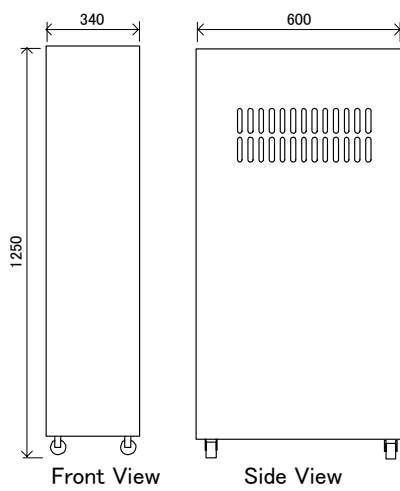
17" FPD Device



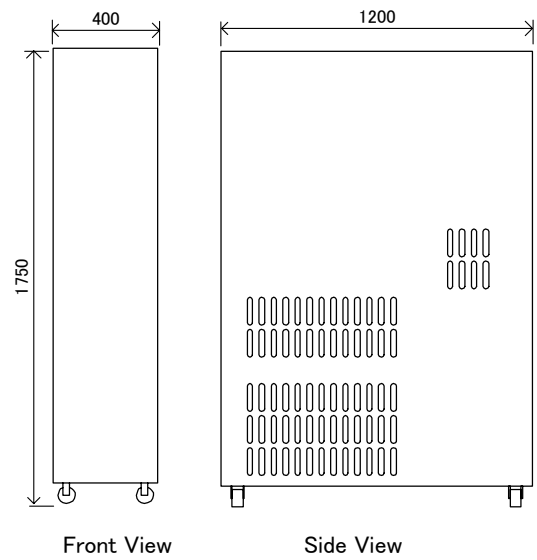
PCU (Panel Control Unit)



Sub Cabinet



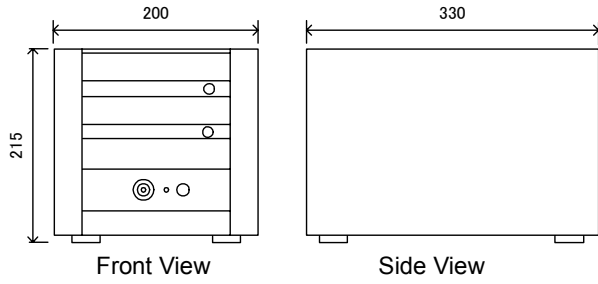
PSU RACK2



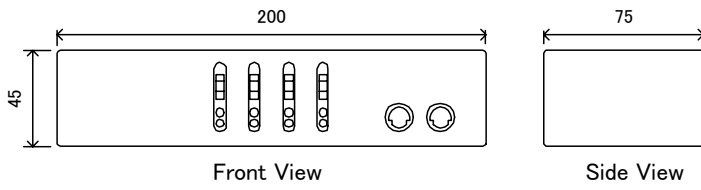
Unit : mm

**DIMENSIONS (DAR-8000f) (cont.)**

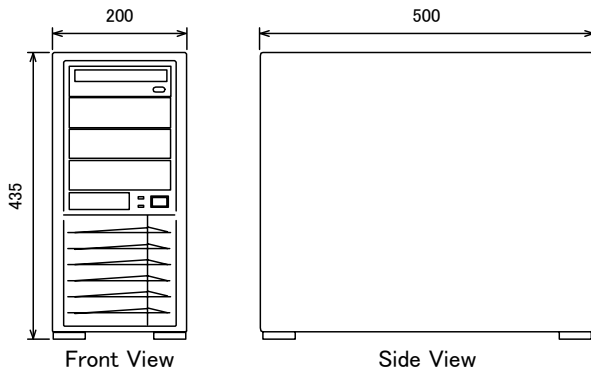
Remote Maintenance PC



PC Selector



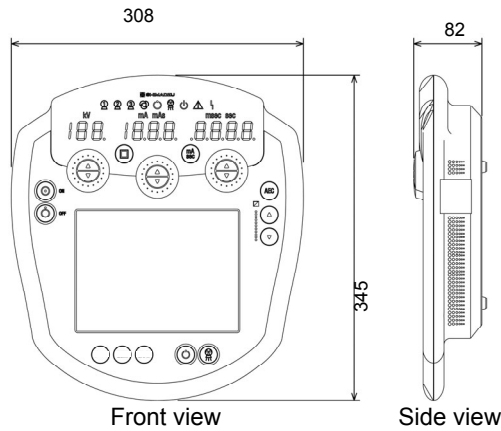
Side Station (Option)



Unit : mm

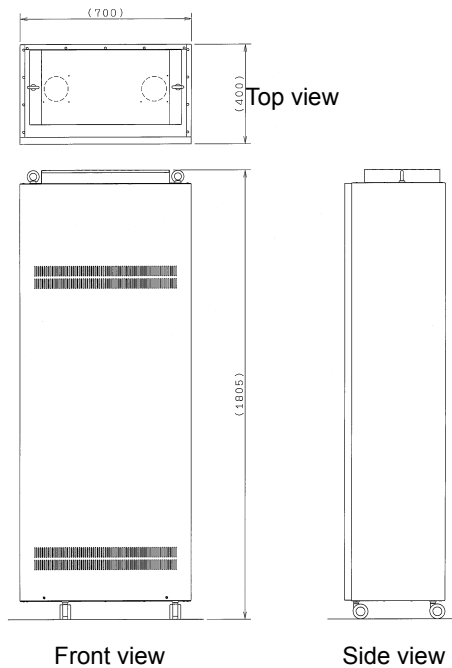
**DIMENSIONS (UD150B-40)**

Control console



Weight: 2.5 kg

Control cabinet



Weight: D150BC-40 (for UD150B-40) 250 kg  
Unit: mm

**Remarks**

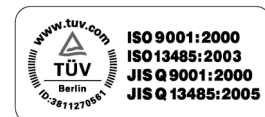
- \* Every value in this Product Data Sheet is a standard value, and it may vary a little from the actual at each site.
- \* The appearances and specifications are subject to change for reasons of improvement without notice.
- \* Certain configurations may not be available pending regulatory clearance. Contact your Shimadzu representative for information on specific configurations.



SHIMADZU CORPORATION. International Marketing Division

3. Kanda-Nishikicho 1-chome, Chiyoda-ku, Tokyo 101-8448, Japan Phone: 81(3)3219-5641 Fax: 81(3)3219-5710

URL <http://www.shimadzu.com>



Shimadzu Corporation Medical Systems Group has been certified by TUV Rheinland as a manufacturer of medical equipment and systems in compliance with ISO9001: 2000 Quality Management Systems and EN ISO13485: 2003 Medical Equipment Quality Management Systems.