

SHIMADZU

PRODUCT DATA

X-ray
Digital
Table**SONIALVISION** VERSA 100R/100
(ZS-100IR/100I)

Table body : ZS-100IR

GENERAL

This X-ray diagnostic table 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 (IP/Film Cassette)
- Chest radiography

FEATURES**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. Image intensifier is retracted and accommodated in accordance with the height of the tabletop (Only for model 100IR).
- (3) The compact design provides larger working space;
Sonialvision 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.
- (5) The iris collimator achieves high image quality and dose reduction; A precision, iris collimator is adopted to achieve exposure field to match the selected I.I. input size automatically. The accurate beam collimation suppresses image deterioration due to scattered X-ray and effectively cuts out non-required X-rays to reduce the dose to the patient. Collimation smaller than selected I.I. size can be manually set at any time.
- (6) The simple construction extends coverage for fluoroscopy & radiography;
The simple construction without a spot-film device, extends the fluoroscopic and radiographic area to the both ends of the tabletop for endoscopic procedures.
- (7) The high-precision photo-timers with four fields* provide stable, high quality radiographic images;
The table incorporates high-precision photo-timers with four fields for IP/cassette radiography. There is no compromise for chest and abdominal radiographies with same height detection for both A-P and lateral chest (lung) and separately in the middle for abdomen. (*Option)
- (8) 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.
- (9) Tomography capability;
Tomography is possible with either cassette radiography or IP (imaging plate for CR). 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.
- (10) Pelvic radiography;
Steep X-ray incidence angles greatly help the imaging of pelvic examinations at the max. $\pm 40^\circ$ angles required to view the pelvic inlet or outlet.
- (11) Chest radiography capability;
Chest IP/cassette radiography is possible with the table vertical and X-ray tube unit extended to 1.5 m FFD.
- (13) 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.

FEATURES (cont.)**DEDICATED SYSTEM FOR
DIGITAL IMAGING**

- (1) In combination with DAR-8000i, the state-of-the-art digital imaging unit, the system provides high quality digital images of 1024 × 1024 matrix, 12 bit density resolution, and 15 fps.
- (2) User-friendly GUI (Graphical User Interface) operation protocol is adopted to DAR-8000i. The following functions can be executed at the system console;
 - Window & Center Control
 - Horizontal (Right/Left), vertical (Up/Down) Image flip
 - 4x4 Multi-frame display with study/series overview
 - Cine display : A series of radiographic images can be displayed at variable replay speed.
 - Print-select/start
 - MAP fluoroscopy selection
 - Fluoroscopy image storage
 - Stacking
 - Reference image registration
(* Available specifications are dependent on the configured digital imaging system.)

**CONVENTIONAL CASSETTE
RADIOGRAPHY**

- (1) The cassette can be loaded/unloaded very easily with cassette tray.
- (2) The cassette tray provides wide longitudinal travel along the tabletop to the both end.

CONFIGURATION**STANDARD CONFIGURATION**

- (1) Table body assembly 1 set
This unit consists mainly of a body frame, an X-ray tube supporting tower, an image intensifier 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) Cassette radiography device
This device consists mainly of X-ray grid and cassette tray. Cassette radiography can be performed with up to 35cm×43cm (14" × 17").
- (5) System control console
This console operates the table system. Local and/or remote types are selectable.
- (6) 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.

(7) Accessories

- Foot rest
- Shoulder rest
- Hand grips
- Upper part hand grips
- Barium cup holder
- Soft mattress

OPTIONAL ITEM

- Compression band
- Lateral cassette holder
- Power transformer, XAT-2H
- Phototimer
- Photo pick up
- Cystographic chair
- Knee clutches
- Drain bag
- Endoscope holder
- 500 lb weight option

SPECIFICATIONS

Item		Content		
		ZS-100I	ZS-100IR	
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 *1 17 sec/90°	
	Elevation (at horizontal position)	Table height	85 - 110cm [when 40cm (16") I.I. is mounted]	74 - 110cm [when 40cm (16") I.I. is mounted] ²
			78 - 110cm [when 30cm (12") I.I. is mounted]	63 - 110cm [when 30cm (12") I.I. is mounted] ³
		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	142 cm
		Speed	15 cm/sec max. (continuously variable), 20 cm / sec (in stepping movement)	
	Distance between X-ray focus and film (FFD)		110, 120, 150 cm	
	Distance between X-ray beam axis and floor surface at vertical position		57 - 212 cm	68 - 210 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		Polygonal field corresponding to the circular input surface on I.I. (Iris collimator)	
	Radiographic maximum field	For digital spot	Polygonal field corresponding to the selected I.I. size or smaller rectangular by manually set	
		For cassette radiography:	Corresponding with selected film format	
Rotary mechanism of exposure field(option)		The automatic X-ray collimator itself can be manually rotated by ± 45°.		
Radiography	Cassette radiography	Automatic detection of cassette size (full size only)		
	Grid	Type		

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

*2; At 86 cm the I.I. moves to lower the table.

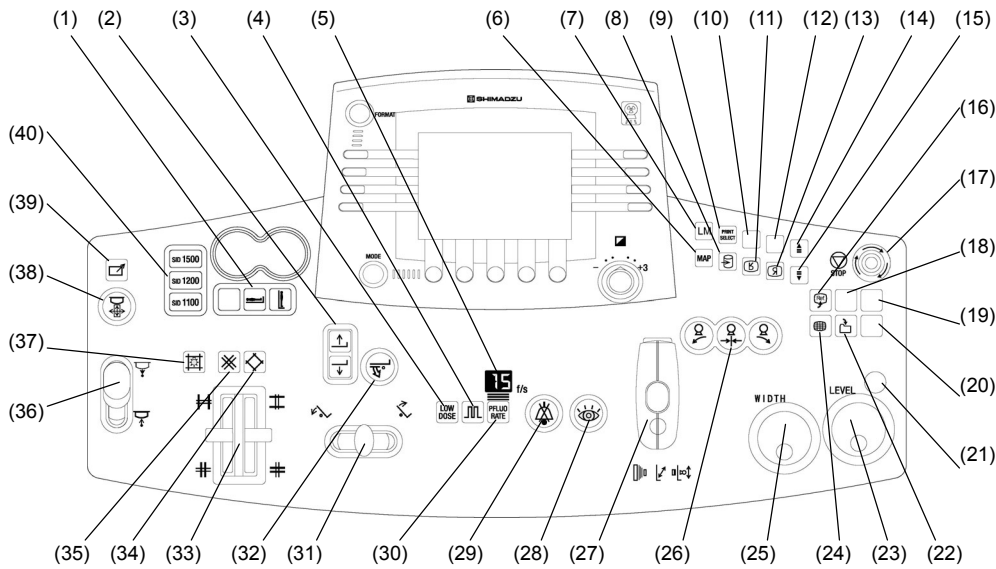
*3; At 79 cm the I.I. moves to lower the table.

SPECIFICATIONS (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
Items related to installation	Ceiling height needed for installation	Minimum: 255 cm
		Recommended: 285 cm or more
	Operation/maintenance weight	Approximately 1400 kg
	Power supply	Three-phase: 200 V, 3.0 kVA, 50/60 Hz Single-phase: 100 V, 0.5 kVA, 50/60 Hz
	Type/degree of protection against electric shock	Class I, B-type equipment
Environmental condition	Temperature	+10°C to + 35°C
	Relative humidity	30% to 65% (no dew condensation)
	Atmospheric pressure	700 hPa to 1060 hPa (700 to 1060 mbar)
	Atmosphere	Atmosphere without explosive gases or corrosive gasses

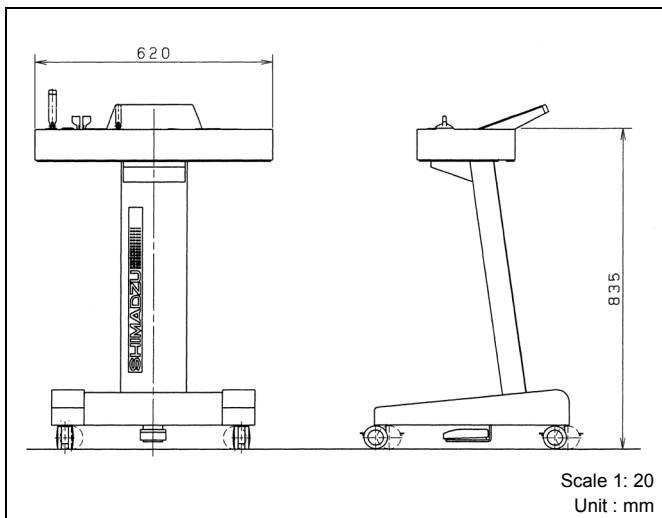
CONTROL PANEL

- | | | |
|--|---|---|
| (1) Table return switch (in horizontal/ vertical position) | (14) Reference image addition switch | (28) Fluoro preparation switch |
| (2) Table elevation switch | (15) Emergency switch | (29) Fluoro timer reset switch |
| (3) Low dose switch | (16) Previous frame switch | (30) Pulsed fluoro rate control switch |
| (4) Pulsed fluoro select switch | (17) Next frame switch | (31) Table tilting handle |
| (5) Pulsed fluoro rate indicator | (18) Spare | (32) Tilt bypass switch |
| (6) Road-MAP switch | (19) Spare | (33) Collimation open/close handle |
| (7) Super CINE display switch | (20) Spare | (34) Iris collimator open switch |
| (8) Fluoro image store switch | (21) IVR MASTER Joystick | (35) Iris collimator close switch |
| (9) Print start switch | (22) Shot save switch | (36) Compression cone operation handle |
| (10) Print store switch | (23) Image level control jog dial | (37) Exposure field lamp switch |
| (11) Image inversion switch (up & down) | (24) Multi image display switch | (38) Compression cone fix switch |
| (12) Print select switch | (25) Image width control jog dial | (39) Control panel remote/local select switch |
| (13) Image inversion switch (right & left) | (26) Oblique projection/return switch | (40) FFD select switch |
| | (27) Tabletop/imaging unit operation handle and exposure switch | |

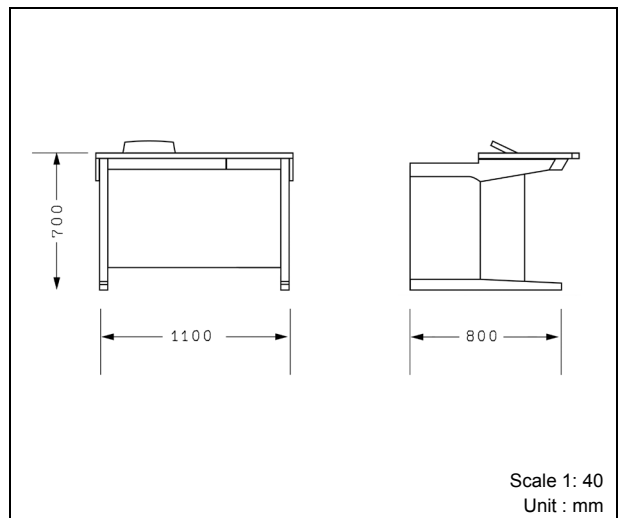


DIMENSIONS

Local system control console

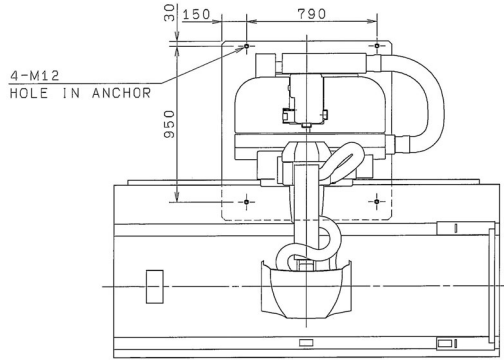


Remote system control console

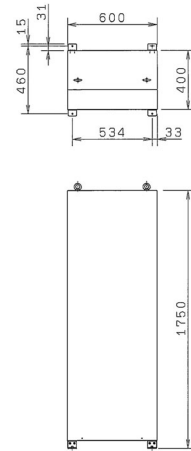


DIMENSIONS (cont.)

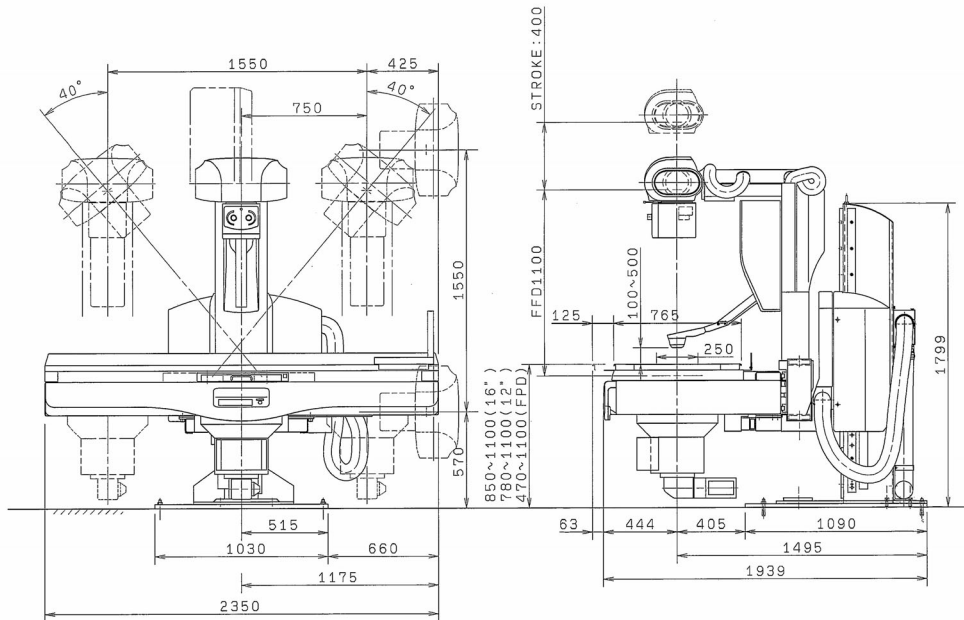
ZS-100I/100IR



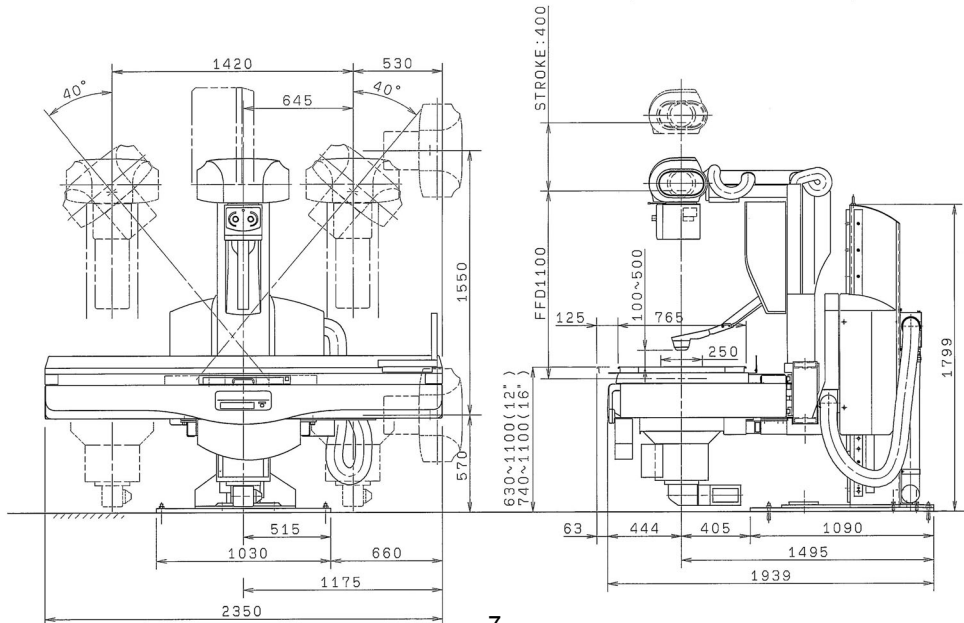
Control box



ZS-100I



ZS-100IR



RECOMMENDED SYSTEM CONFIGURATIONS

Digital Imaging System	DAR-8000i
X-ray high voltage generator	UD150B-40/V-40/L-40 (80kW/65kW/50kW)
X-ray tube assembly	0.6/1.2P324DK-85SF or 0.3/0.8P324DK-85SF (400kHU)
X-ray tube starter	SA-41UD
Image intensifier	IA-12LD/HG12 (30cm FOV)
	IA-12LT/HG12 (30cm FOV)
	IA-16LT/HS12 (40cm FOV)

Remarks

- * Every value in this Product Date 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.



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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.