

**SHIMADZU**

# PRODUCT DATA

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Online  
Image  
Review

# Review Station

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## GENERAL

Perform a variety of post-processing, including image playback, receiving DICOM image loops, DICOM printing, angiographic analysis, pixel shifting\*, and re-masking on this Review Station, while completely independent from the angiography system (BRANSIST safire).

This optional Review Station is recommended for creating films of images and/or performing image processing (ex. angiographic analysis) for other patient(s) during an examination.

\* Available only with BRANSIST safire DSA function

**FUNCTIONS**

(1) Image Processing

- Continuous Animation Display (Cyclic Display)  
Displays images continuously at up to 30 frames/second.
- Real-Time Edge Enhancement  
Acquires sharp images by enhancing subject edges with an emphasis on spatial frequency.  
Select from two spatial frequency emphasis techniques, either 5x5 convolution processing or unsharp processing.
- Negative/Positive Inversion Display  
Displays images as acquired (positive) or as an inverse (negative).
- Gamma Correction  
Selects the gamma used for image display.
- Animation Zoom  
Enlarges still images and loops up to 2.5 times original size.
- Re-Masking of DSA Images  
Creates a new sub-image by freely re-selecting the mask image.
- Pixel Shifting of DSA Images  
The miss-registration is reduced by shifting the mask image up, down, right and left, and by executing subtraction at the position with the live image.
- Auto Window Control  
Displays images with contrast that is automatically controlled and stabilized.
- Exporting Images and Loops  
Exports still images to BMP and JPG files, and loop images to AVI files.

- Mini Viewer Application (EIVviewer.exe)  
When creating a DICOM CD-R/DVD-R, saves a Mini Viewer (EIVviewer.exe) for viewing images together with the image files. Use this viewer to view loops and images on a Windows-based computer. (Mini Viewer requires DirectX9.0 or later on a Windows® XP or Windows® 2000 system)

(2) Image Analysis

- QCA (Quantitative Coronary Analysis)  
Provides quantitative analysis of the level of blood-vessel stenosis. Simply specify the stenosis location and this function automatically recognizes the vessel wall and displays the stenosis rate.
- LVA (Left Ventricular Analysis)  
Provides quantitative analysis of left ventricle (LV) function. Specify the inner wall of the LV to automatically calculate LV lumen capacity, ejection fraction and other data.

(3) Network

- DICOM Image Receive  
Queries the image server and receives images via a DICOM network.
- DICOM Image Print  
Prints images on DICOM printers.

**SYSTEM COMPONENTS**

Item	Dimensions (H x W x D)	Weight	Installation Location
Review Station PC	435 mm x 200 mm x 500 mm	13 kg	Control Room
Monitor	450 mm x 430 mm x 240 mm	10 kg	Control Room
Keyboard/ Mouse	-	-	Control Room
Transformer Unit (Optional)	389 mm x 302 mm x 456 mm	60 kg	Equipment Room

**SPECIFICATIONS**

(1) Image Processing

Image Performance	1024 x 1024 image processing (including noise reduction filtering) and image processing (window level adjustment and edge enhancement) is performed at up to 30 frames per second.
Display D/A Converter	8 bits/256 gradations

(2) Image Display

Output Video Signal	Non-interlaced
Display Image Matrix	1280 x 1024
Display Gradations	256
Display Brightness	400 cd/m <sup>2</sup> min. (monochrome LCD monitor)
Image Processing	Brightness adjustment, Edge enhancement, Negative/positive inversion, Pixel shifting, Re-masking, Gamma correction, Image magnification
Character Display	Fixed format (for patient information, etc.) Free format (for annotations, etc.)
Image Analysis	QCA (Quantitative Coronary Analysis) LVA (Left Ventricle Analysis)

(3) Image Storage

Magnetic Disk	1024 x 1024 pixels (12-bit): 100,000 frames
Media	CD-R (650MB) 512 x 512 pixels (8-bit): 4,800 frames/disk (max.) 1024 x 1024 pixels (12-bit): 600 frames/disk (max.) DVD-R (4.7GB) 512 x 512 pixels (8-bit): 30,000 frames/disk (max.) 1024 x 1024 pixels (12-bit): 4,000 frames/disk (max.)

(4) Network Functions

DICOM image transmission
DICOM image reception

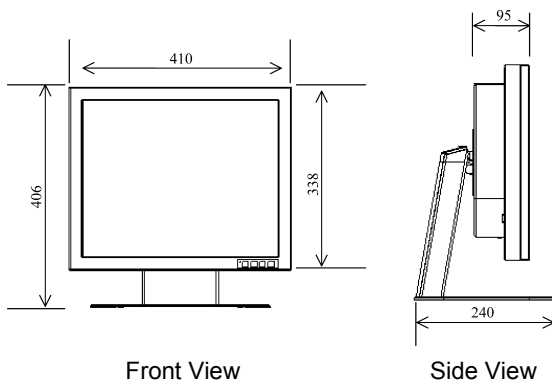
**ENVIRONMENTAL CONDITIONS**

Power Source (Digital Operation Cabinet)	Single-phase AC 200/220/230/240 V, 4 kVA, 50/60 Hz
Ambient Operating Temperature	10 °C to 30 °C
Relative Humidity	15% RH to 75% RH (non condensing)

## EXTERNAL DIMENSIONS

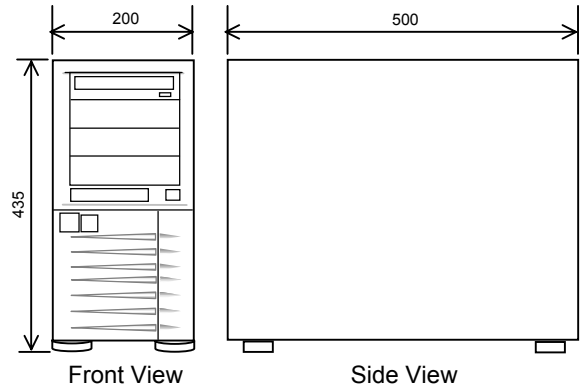
### (1) Monitor

Weight: 10 kg (with operation room stand)



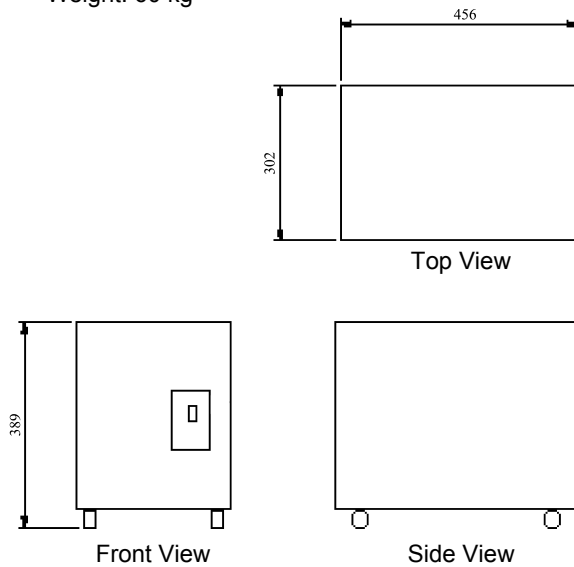
### (2) Review Station PC

Weight: 13kg



### (3) Transformer Box (Optional)

Weight: 60 kg



\* Unit: mm  
This diagram shows standard dimensional values.

### Remarks

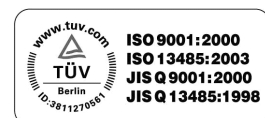
- \* Every value in this Product Data Sheet is a standard value, and it may vary a little from the actual at each site.
- \* The appearances and specifications are subject to change for reasons of improvement without notice.
- \* Certain configurations may not be available pending regulatory clearance.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



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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 ISO13485:2003 Medical Equipment Quality Management Systems.