

# SERIES 9400

## Basic Specifications



### X-ray System

#### Generator

- High frequency, 2.5 kHz
- 7.5 kW full-wave
- Up to 120 kVp
- Up to 100 mA for radiographic film exposures
- Boosted fluoro capability (optional)
- Pulsed fluoro capability
- Pulsed fluorography capability (optional)
- Full power from 115V at 15 amps (20 amps when equipped with the 30 F/S disc option)
- Patented energy buffer design

#### X-ray Tube

- Eimac® rotating anode
- Focal spots: 0.3 mm and 1.0 mm
- Focal spot kW rating:
  - 0.3 = 5.3 kW
  - 1.0 = 41.0 kW
- Anode heat capacity: 300,000 H.U.
- Anode cooling rate: 70,000 H.U. per min.
- Housing heat capacity: 1,250,000 H.U.
- Anode diameter: 3"
- Anode angle: 10°

### Collimator

- Two sets of opposing shutters
- Continuously variable
- Rotateable
- All functions remotely controlled from control panel and optional hand held remote

### Fluoroscopy Mode

- Focal spot: 0.3 mm
- kVp range: 40 - 120
- Maximum ripple: typically 1% @ 120 kVp/5mA
- mA range: 0.2 - 5.0 normal mode 1.0 - 2.0 boost mode (optional)
- Auto and manual modes
- Continuous, one shot or pulsed operation
- ABS varies mA, kVp and camera gain
- User selectable applications specific tables

### Pulsed Fluorography Mode (Optional)

- Focal spot: 0.3 mm
- kVp range: 40 - 120
- mA range: Up to 60 mA
- Pulse width: 30 or 50 milliseconds
- Pulse rate: 1, 2, 4 or 8 per second (selectable)
- Camera operates in progressive scan mode
- Computer controlled camera iris, mA, kVp and camera gain

## Radiographic Mode

- Focal spot: 0.3 mm or 1.0 mm
- Focal spot size automatically selected
- mAs range: 1 -300 kVp range: 50 - 120
- Cassette holder:  
10" x 12" or 24 cm x 30 cm (Optional)

## Video Imaging System 9"/6"/14"

### Image Intensifier

- Central Resolution:  
4" = 54 lp/cm (typical)  
6" = 48 lp/cm (typical)  
9" = 41 lp/cm (typical)
- Peripheral Resolution @ 70% Radius:  
4" = 50 lp/cm (typical)  
6" = 46 lp/cm (typical)  
9" = 40 lp/cm (typical)
- Contrast Ratio: 30:1 (typical)
- DQE: 65% (typical @ 1.7 Hz)

### TV Camera

- 1" Vidicon (high sensitivity)
- Progressive scan operation
- 360° motorized rotation
- On-screen orientation indicator (real-time feedback w/o fluoro)
- Left-right image reversal
- Top-bottom image reversal
- Negative mode
- Bandwidth = 15 MHz
- Video signal:  
Standard RS- 170A 60 Hz, 525 line  
[International CCIR 50 Hz, 625 line] .
- Aspect Ratio: 4:3
- Computer controlled features
  - Dark current compensation
  - Gain
  - Blanking
  - Camera iris

### Video Monitors

- Two 17" Ultrabrite Anti-glare monitors (standard)
- 525/625 lines, 20 MHz
- Remote brightness and contrast controls
- Auto brightness control via ambient room light sensors

## Image Storage

- Last image hold (all models)
- Digital memory capacity
  - Basic version: 4 images
  - ESP version:  
60 images (hard disc)  
3 images (floppy disc)
- 4 F/S disc:  
1,200 images (60Hz)  
980 images (50Hz)
- 30 F/S disc:  
2,700 images (60 Hz)  
2,200 images (50 Hz)
- Analog memory options
  - 1/2" SVHS VCR (standard w/Special Procedures module)
  - VCR's are x-ray beam interfaced

## Image Processing

### Basic 9400

- 4 image storage with last image hold
- 640 x 512 x 10 Bit
- Frame averaging (low, high)
- One-shot frame integrate (low, high)
- Integrate enhance (low, high)
- MARS (motion artifact reduction system)

### ESP (option)

- 60 image storage w/last image hold
- 3 images on each 3V2" removable floppy diskette
- 640 x 512 x 10 Bit
- Frame averaging (low, medium, high)
- One shot frame integration (low, medium, high)
- MARS (motion artifact reduction system)
- Variable edge enhance (track ball)
- Digital window/level
- Real Time auto histogram (auto window/leve)
- Variable zoom and roam (track ball) 16 image collage of "60 image disc" Patient directory w/minified image scroll (track ball)
- Patient annotation keyboard (pull-out drawer)
- Anatomical markers
- On-line help menus
- VCR and multi-format camera compatible

### **Chole (Option)**

- Available only with ESP
- Continuous mode:
  - Up to 20 mA fluoro boost
  - Peak opacification
- Pulsed fluorography
  - 4 F/S digital disc (optional)

### **Specific Procedures (Option)**

- Available only with ESP
- Continuous Mode:
  - Up to 20 mA fluoro boost
- Pulsed fluorography mode
- Real time subtraction
- Roadmapping
- Peak opacification
- Re-registration (track ball)
- Variable landmarking (track ball)
- Mask Save/Recall
- 1/2" Sony Super VHS VCR
- 4F/S digital disc (optional)
- 30 F/S digital disc (optional)

### **4 F/S Digital Disc (option)**

- Integrated into monitor cart
- Available only on Chole and Special Procedures modules
- Record rate: 1, 2 or 4 Frames/Sec.
- Record time: 20, 10 or 5 minutes
- Play mode: 1, 2 or 4 Frames/Sec.
- Control: Instant image access (track ball)
- Synchronized to pulse with generator, T.V. camera and image processor

### **30 F/S Disc (Option)**

- Integrated into monitor cart
- Available only on Special Procedures module
- Record rate: 1, 2, 4, 8, 15 or 30 Frames/Sec.
- Record time: 45, 22.5, 11, 5.5, 3 or 1.5 Minutes
- Play mode: 1, 2, 4, 8, 15 or 30 Frames/Sec.
- Control: Instant image access (track ball)
- Synchronized to pulse with generator, T.V. camera and image processor

### **Hard Copy**

- Radiographic film capability
- Multi-format camera: Lenzar compact 8 x 10 x-ray film camera
- 1 on 1 or 2 on 1 format

### **System Control**

- Entire system is computer controlled
- Software upgradeable
- Main control panel pivots right-to-left for user convenience
- Remote controls:
  - Infrared image processing control (optional)
  - Hand held mainframe control
  - Footswitch

### **Regulatory Compliances**

- FDA (BRH)
- UL 187/478 listed
- CSA Certified
- TUV (IEC 601)
- NFPA 99
- NEC 1990

### **Physical Specifications**

#### **Mechanical**

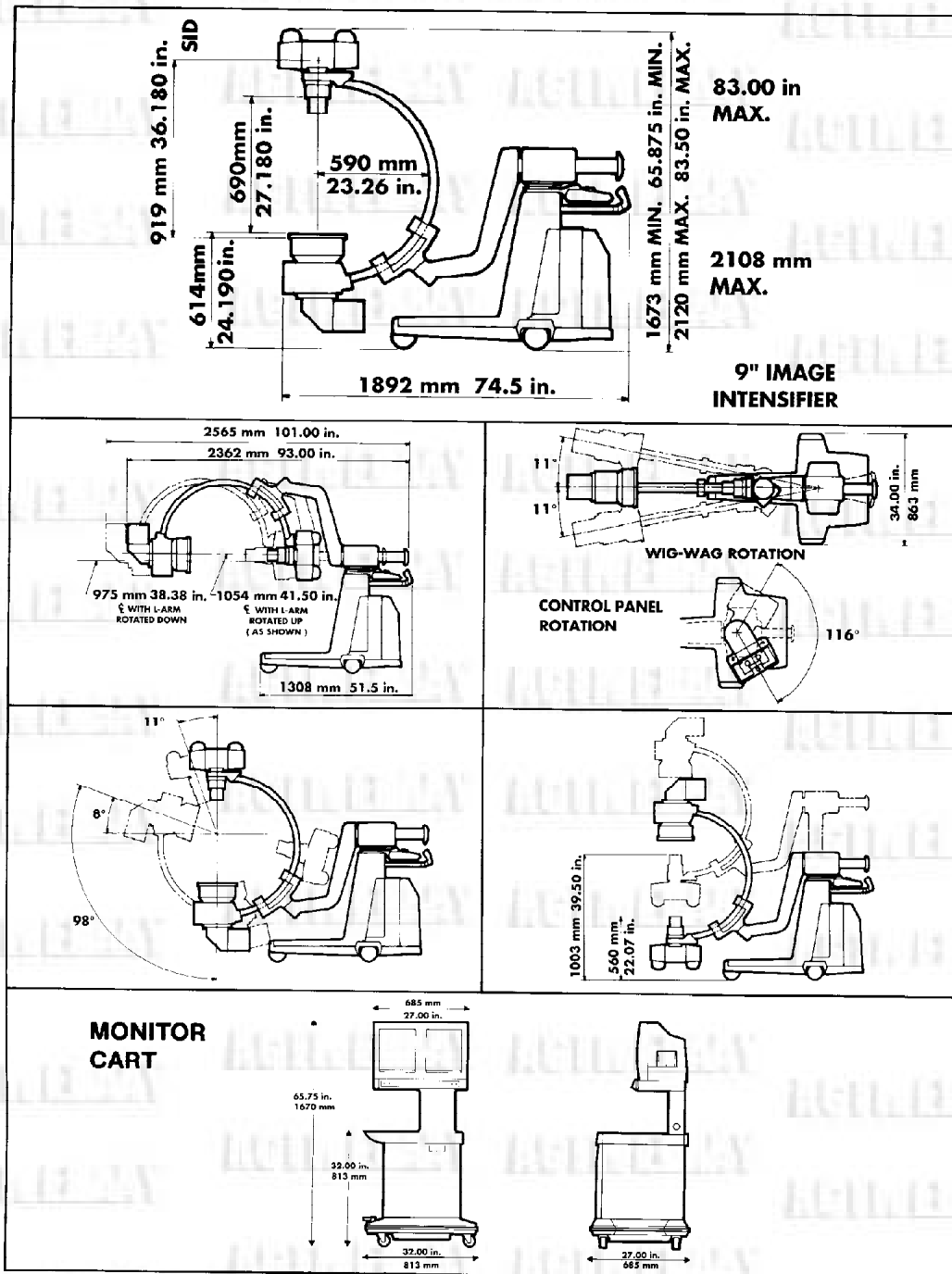
- Free space in arc:
  - 9"/6"/4" : 27.2"
- Depth of arc: 23.3"
- Arc movement: 111°
- Left/Right Scan:  $\pm 11^\circ$
- Vertical travel: 18" motorized
- Horizontal travel: 8"
- L-arm rotation:  $\pm 185^\circ$  motorized
- Reversible C-arm: Manual (flip-flop)

#### **Dimensions**

- Main C-arm frame (in compacted position):
  - 74.5" (189 cm)
  - Height: 65.8" (167 cm)
  - Width: 34" (86 cm)
- Monitor Cart:
  - Width: 32" (81 cm)
  - Height: 65" (165 cm)
  - Depth: 27" (68 cm)
- Electrical:
  - Input Power:
    - 115V @ 15 Amps 60 Hz
    - (20 Amps when equipped with the 30 F/S disc option)
    - 230V @ 12 Amps 50 Hz
    - 100V @ 20 Amps 50 Hz

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# Dimensional Specifications



**9" IMAGE INTENSIFIER**

**MONITOR CART**

Active X-ray.com



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