



Power, Precision, Performance

OEC® 9900 Elite



Maneuverability and Positioning

- OEC 9900 platforms have 31" of free space in between the X-ray tube and the image receptor to provide a large imaging space.
- The C-arm depth is 26" or deeper to provide a large imaging space and C-arm clearance around the patient and the imaging table.
- The C-arm models provide a minimum of 115° C-arm orbital rotation, 90° under-scan and 25° over-scan. The Super-C model increases the over-scan to a maximum of 55°.
- The system mechanics allow the user to reverse the X-ray tube and the I.I. positions and also provide C-arm under-scan and over-scan capabilities.
- The C-arm is able to rotate $\pm 180^\circ$ to allow the imaging chain to accomplish angled projections.
- The system has at least 18" of vertical C-arm travel capability to adjust the imaging chain height.
- The C-arm provides side-to-side (wig-wag) and the horizontal travel movements to allow panning during imaging.
- The system is equipped with cable pushers on the C-arm wheels so that the C-arm can more easily move over the cables.
- The system can be upgraded to provide motorized C-arm movements in both orbital and lateral directions at 9° per second.



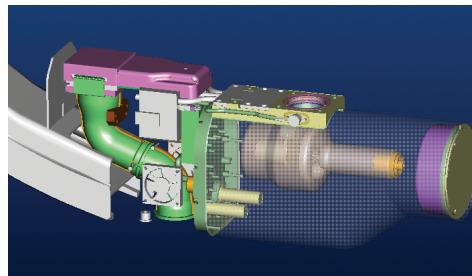
Power to Perform

- The generator is a 60 kHz high frequency inverter.
- The output power rating of the generator is 15 kW.
- The system operates at full capacity out of a standard wall outlet on 120 Volts AC, 15 amps.

- The generator meets the following power requirements:
 - Fluoroscopic kVp range: 40 - 120 kVp
 - Fluoroscopic mA range: 0.2 - 10 mA
 - Radiographic kVp range: 50 - 120 kVp
 - Radiographic mA range: up to 75 mA
- The generator is capable of providing a boost or a high dose fluoroscopic exposure at up to 20mA.
- The generator is capable of providing pulsed fluoroscopy at 1, 2, 4, or 8 pulses per second.
- The generator is designed to provide a high mA digital spot or digital radiography mode with up to 75 mA.
- The generator is capable of pulsing at 1, 2, 4, or 8 pulses per second in normal fluoroscopy mode to reduce radiation exposure if needed.
- The generator is capable of pulsing at 30 pulses per second in Digital Cine Pulse Mode to reduce imaging lag caused by patient or C-arm movement.
- The maximum X-ray tube current in radiographic mode is 75 mA from standard 120 Volts AC, 15 amp outlet.
- The mAs range in radiographic mode is between 1 to 300 mAs.

It's All About Imaging

The Tube . . .



- The X-ray tube uses a rotating anode X-ray tube.
- The X-ray tube has dual focal spots sizes of 0.3 mm & 0.6 mm nominal.
- Anode heat storage capacity is 300,000 H.U.
- The anode cooling rate is 85,000 H.U./min.
- Anode temperature is computer monitored for protection. An on-screen warning is provided before the anode reaches its maximum heat storage capacity.
- The tube housing heat storage capacity is 1.6 million H.U.

- Proprietary heat pipe cooling technology and a ducted fan cooling system improve efficiency of X-ray tube heat management so the system can meet the requirements of higher power interventions.
- Protection is provided for tube overload.

The Image Intensifier . . .

- The system has a 9" tri-mode image intensifier.
- The minimum central resolution at the monitor in the 9" mode is 2.2 line pairs/mm.
- The system has a 12" tri-mode image intensifier option for vascular applications.
- The minimum central resolution at the monitor in 12" mode is 1.6 line pairs/mm.
- The image intensifier is equipped with a carbon fiber grid with 10:1 grid ratio and 150 lines/inch.

Display Details

- The system is equipped with a high resolution 1K x1K CCD camera.
- The camera gain and iris are computer controlled.
- The system is equipped with an automatic ABS tracking system to optimize image quality.
- The system is equipped with two 19" LCD high resolution monitors.
- The system has an articulating monitor arm capable of moving 22" in the horizontal direction and a 7° up /10° down degree tilt along the vertical plane. Monitors are viewable from all four sides of the workstation.
- The system provides an ambient room light sensor to automatically adjust the monitor brightness for optimum image display.
- The system has a touch screen user interface.
- The system has a reference monitor on the C-arm which displays the live fluoro image. (Not available on the motorized system.)



Image Management and More

- The system provides a simple method to input patient information into the system computer so that each image is properly annotated.
- The system allows the user to enter multiple patients into the system via a work list.
- The system provides a last image hold capability where the last image is displayed on the active monitor after the termination of an exposure.
- The system offers Dynamic Range Management (DRM)- Precision Imaging and Pre-set Imaging Profiles.
- The system is equipped with a backlit X-ray control panel that allows technologists to operate the system in a dimmed operating room.
- The system allows the user to change the image orientation on the display screen during a live exposure or using the last image hold. Those functions include image rotation, left to right and top to bottom image reversals.
- The system is equipped with an iris collimator and shutters to limit the imaging field and reduce the X-ray exposure area to improve image quality.
- The system provides an on-screen collimator position indicator which can be applied on the last image hold so that the user can adjust collimation without X-ray exposure.
- The system allows the user to change the image field of view in real-time to magnify images and improve image resolution for better visualization of small anatomical parts.
- The system provides a means to monitor accumulated exposure time during a procedure and an alarm to warn the user of long exposure time.
- The system provides means to record and display radiation exposure dose information for a procedure.
- The system automatically selects proper imaging technique, kVp and mA, during imaging, but also provides the user with the ability to override these settings manually.

- The image processing matrix is 1,000 x 1,000 x 16 bit.
- The system is capable of providing digital cine modes at either fifteen (15) or thirty (30) pulses per second.
- The system provides noise reduction control to improve image quality.
- Real-time automatic brightness and contrast control are provided to optimize the displayed image.
- The system provides a real-time and post processing edge enhancement capability to improve bones and vascular details.
- An electronic zoom function is provided to magnify a captured image for improved visualization.
- The system provides an automatic save function so that the last image taken is automatically saved to the hard disk.
- The system provides means to put markers or comments on an image.
- The system provides a simple method to retrieve stored images (static and dynamic), display a collage of stored images, and allow the user to review stored images at a later time.
- The system is capable of saving 63 - 1000 static images to the internal hard disk, depending on the product configuration. Stored images can be retrieved at a later time.
- The system has an integrated CD/DVD burner and allows saving in DICOM or OEC format.
- The system has a USB 2.0 mass storage write-only capability to save images in .jpg/.bmp/.ave file formats. USB storage devices must be unencrypted and unprotected.
- The system is capable of storing angiographic runs (dynamic images) to the internal hard disk at various frame rates. The maximum frame rate is 30 frames per second.
- The system provides dynamic image storage of up to 10 minutes at 30 frames per second.
- The system provides an automatic playback capability so images can be played back immediately after the completion of a dynamic imaging run.
- The system allows the user to review a dynamic imaging run frame-by-frame and to set cues in the run.
- The system provides digital subtraction and roadmap imaging modes for vascular applications. These imaging modes can be accessed and operated by the user.
- The system provides pixel shift, landmark, peak opacification and re-masking capabilities in the vascular mode.
- The system provides integrated high quality hardcopy features to a thermal printer, laser quality film printer, or interface to a laser camera.
- The system provides a DICOM 3.0 interface capability that can be connected to the hospital's network system to transfer images for image archive and print purposes.
- The system's DICOM 3.0 interface provides storage class, print class and query/retrieve work list features.
- The system allows the option for wireless DICOM which utilizes a Wireless LAN 802.11 b/g/n, 10/100 MB device, runs a custom embedded Windows implementation, and currently supports WEP-64, WEP-128, WPA-PSK (TKIP), WPA2-PSK (AES-CCMP) and PEAP with EAP-MS-CHAP V2 security methods.

Training Advantages

- The purchase of this product includes in-house training of staff technologists by an applications specialist (certified technologist) from the manufacturer.



- The training includes continuing education credits for staff technologists who complete the course work.



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GE OEC Medical Systems, Inc.

**GE Healthcare,
Surgery — Americas:**
Phone 801-328-9300
Fax 801-328-4300

GE Healthcare — Europe:
Paris, France
Fax 33-1-30-70-94-35

GE Healthcare — Asia:
Tokyo, Japan —
Fax: +81-452-85-5490
Hong Kong —
Fax: +852-2559-3588